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GIANTS' CAUSEWAY.

(With an Engraving.)

THIS is a name given, in the county of Antrim, on the north coast of Ireland, to a vast quantity of that kind of basaltes which stands in columns, and runs out a great way into the sea.

The ignorance of the vulgar as to the nature of this stone, has occasioned this great pile of it to be supposed artificial, and the work of giants, once inhabitants there. But whoever considers this amazing series of columns, will be soon convinced, that no human hands could have formed them, and will find an accuracy in their figures greater than could have been expected from the most curious hand. The length of the several columns, and their joints so regularly placed in series, and the niceness of their articulations, by which no space or vacuity is left between, are wonderful.

This causeway forms a kind of mole, or quay, projecting from the base of a steep promontory some hundred feet into the sea; and the perpendicular columns of which it is formed, exhibit an appearance not unlike a solid honeycomb. The single columns are irregular prisms of from four to eight sides; but the pentagonal and hexagonal are by far the most numerous, and, when examined, they are found just such as must necessarily be required in the places where they stand to fill up between others, so as to leave no vacuity. Each of these columns is separable into a series of joints, each of which is so well fitted to the place, that the joining appears only a crack or crevice in the stone: yet these are regularly articulated, there being always a convexity on one part, and a socket in the other to receive it, so that the joints cannot slip off from one another; besides which, the angles of one frequently shoot over those of the other, so that they are completely locked together, and can rarely be separated without a fracture of some of their parts. The depth of the concavity is generally about three or four inches.

These hollows are of great use to the neighbouring poor, for they make a kind of salt pans of them, and thus very easily procure themselves a kind of bay-salt in summer. They fill these little basons with sea-water at high tides, and the heat of the sun and of the stone contributing greatly to the evaporation, as well as the shallowness of the bason, the whole humidity is found evaporated in the time of four tides, and they take out the salt ready for use. The length of those joints is various; they are from eight to four and twenty inches long, and for the most part longer towards the bottom of the column; they are generally from fifteen to twenty inches in diameter.

The triangular and square columns are fewer in number than the others, but they stand principally in the inner part of the large series, and are seldom seen, unless searched after by a curious eye.

The regular figure of the stone, composing this causeway, is not more wonderful than its quantity; the whole country for many miles being full of it, and a vast mass running far into the sea: for, besides what vulgarly goes by the name of the Giants' Causeway, which is itself of vast extent, there are great numbers of the same pillars at distances in other places.

There are two smaller and imperfect causeways to the left hand of the great one; and farther in the sea, a great number of rocks shew themselves at low water, which appear plainly all to consist of the same sort of columns.

In going up the hill from the causeway there are found, in different places, a vast number of the same columns; but these do not stand erect, but are laid slanting upwards in different angles and directions. Beyond this hill, eastward also, at several distances, there stand a great number of the same pillars, placed straight and erect, and in clusters of different sizes. These are seen scattered, as it were, over the several parts of the hills.

One parcel of them is much admired, and called by the country people the looms of the organs. It stands in an elegant form, and faces the bottom of the hill. The columns, of which this cluster consists, are about fifty in number, and they are so nicely put together, that the tallest stand in the middle, and the shorter gradually on each side of it to the end, so that they look like the pipes of a church organ viewed from the front. The tallest one of all these, which stands exactly in the centre, is forty feet high, and consists of forty-four distinct joints.

What is emphatically called the Giants' Causeway is, in fact, a small portion of that basaltic area, of which the promontories of Bengore and Fairhead consist, and which extends over a great part of the neighbouring country. These two great promontories, which have been examined by Hamilton, and lately by Dr. Richardson, stand at the distance of eight miles from each other, and are the leading features of the whole coast of Antrim.

Of the different varieties observable in the columns that compose the Giants' Causeway, and those of the other parts of the coast, the following comparative view has been given by Mr. Hamilton.

1. With respect to form and magnitude: the pillars of the Causeway are comparatively small, not very much exceeding one foot in breadth and thirty in length; sharply defined, neat in the articulation, with convex or concave terminations to each joint. In many of the capes and hills they are of larger size, more imperfect, and irregular in their figure and articulations, having often flat terminations to their joints. At Fairhead they are of a gigantic magnitude, sometimes exceeding five feet in breadth and one hundred in length; often apparently destitute of joints altogether.

2. With respect to situation: the pillars of the Giants' Causeway stand on the level of the beach, from whence they may be traced, through all degrees of elevation, to the summit of the highest grounds in the neighbourhood, as at the old fort of Dunmull, and on the top of Croaghmore, six hundred feet at least above the level of the sea.

3. With respect to disposition and arrangement: at the causeway, and in most other places, they stand perpendicular to the horizon; and in some of the capes, and particularly near Ushet harbour, in the isle of Raghery, they lie in an oblique position; at Doon-point, in the same island, and along the Ballintoy shore, they form a variety of regular curves.

4. With regard to colour and grain: the Giants' Causeway basaltes is blackish, close, and uniform; its varieties of colour, are blue, reddish, gray; and of grain, all that can be supposed from extreme fineness to the coarse granulated appearance of a stone, which resembles imperfect granite abounding in crystals of shorl, chiefly black, though sometimes of various colours.

5. With respect to texture: though the Giants' Causeway basaltes be in general compact and homogeneous, yet the upper joint of each pillar, where it can with certainty be ascertained, is always rudely formed and cellular. The gross pillars also, in the capes and mountains, frequently abound in these

air-holes through all their parts, which sometimes contain fine clay and other apparently foreign bodies: and the irregular basaltes beginning where the pillars cease, or lying over them, is, in general, extremely honey-combed, containing in its cells crystals of zeolite, little morsels of fine brown clay, sometimes very pure steatite, and in a few instances bits of agate.

The inland pillars, upon the whole, differ from those which run into the sea, and are called the causeway, only in the following particulars: some of the inland pillars are much larger than those of the causeway, being two feet and a half in diameter; and among these there are only found such as have three, four, five, and six sides, none of them having yet been found to have seven or eight sides, as many of those of the causeway itself have. And, finally, these inland pillars, though composed of as many joints as those of the causeway, yet have not that curious articulation of the ball and socket, but are only joined by the laying one smooth surface on another; so that a joint of a single column may be slipped off from the rest, by a considerable force pressing against it. There is something like this observable also in some of the columns of the causeway itself; for among the numbers which are jointed by the ball and socket, there are some which only adhere by being applied surface to surface. This is found only in a few of the columns, however, and they always stand within the clusters, and are composed of less than seven sides. In these also the joint is not made by the application of two horizontal planes, but by such as slant, so that it looks very like the breaking of an entrochus or asteria.

The joints, as we see the pillars above the surface, are usually as many in number as the pillar is feet high; but they are not regularly each of a foot long, for they are shortest at the upper part of the columns, and run gradually longer and longer as they approach the base. This is observed both in the inland columns, and in those of the causeway; but though the length of the joints differs, their convexities and hollows are much the same in all parts of the column.

There are other basaltic columns, similar to those above described, in our own island; particularly the cave of Fingal at Staffa, one of the western islands of Scotland; in the mountain of Cader-idris, near Dolgelly, in Merionethshire; where they probably form a group, as in other places.

The mineralogical substance called basaltes is known to exist in many parts of Europe. It is found near Etna in Sicily; in the Hartz Mountains; in Iceland; in the isle of Bourbon; and frequently in the vicinity of extinct volcanoes. The basaltes of Sicily is formed into clustered columns enclosing, generally, one column of greater diameter than the rest, in the centre. At Castel d'Iaci, at the base of Etna, the pillars are mostly hollow cylinders, the diameter varying from six inches to twenty feet. A large cluster of this species was set up in the Temple of Peace by the Emperor Vespasian, consisting of one vast central column, surrounded by sixteen minor ones, and intended to represent the god Nilus, with his children sporting around him.

Mr. Strange has given an account of two groups of prismatic basaltine columns, which he discovered in the Venetian state in Italy; one in Monte Rosso, about seven miles nearly south from Padua, and the other in Monte del Diavolo, near San Giovanni Illarime, about ten miles north-west of Vicenza. The form of the latter is nearly circular, resembling that of the Giants' Causeway; that of the former approaching more to an oblong or oval figure: the columns of San Giovanni are much about the same size, and measure about a foot in diameter; those of Monte Rosso are very

unequal, some being a foot, while others scarcely exceed three inches in diameter: those of both these Venetian groups manifest all the varieties of prismatic forms observable in the Giants' Causeway, and other such groups; but they have commonly five, six, or seven sides, and the hexagonal form seems mostly to prevail. The texture of the former sort is solid and uniform, the surface smooth, and the internal parts of a dark iron-gray colour; those of Monte Rosso have a rough and knotty surface; and, when broken, manifest a variegated colour, and unequal texture of parts; resembling an inferior sort of granite, of which the mountain is formed, and which serves as a base for this range of columns. Other groups of articulated basaltine columns have also been observed in the provinces of Velay and Auvergne, in France; particularly by M. De Varennes, at Blaud, near Langeac, and by M. Desmarets, near le Mont d'Or; and M. Sage mentions another, near St. Alcon, in the same province. Kircher has long ago described a group of the same columns near Viterbo in Italy. And Mr. Strange mentions another at Castel Nuovo, in the Euganean hills, about four miles south-west of that of Monte Rosso.

The cliff on the right in the plate represents the joints dislodged from their original and natural position, and strewn in independent blocks; the second headland exposes the most elevated stratum of the regularly columnarized species; the third is marked by fine detached columns, nick-named "the chimney tops," said to have been mistaken, by the heroes of the invincible Armada, for the columns of some building, and their present shattered appearance is attributed to the artillery of that great armament. That portion of the basaltic field, which is designated the Causeway, occupies the centre of the view; and the culmination observable there, is called "the Honeycomb." The number of sides vary from three to nine, but the hexagonal form is most prevalent.

To the architect and mathematician, these columns present subjects both for wonder and admiration, and the mind, duly impressed with these sublimities and beauties, will "look through nature up to nature's God." Those, on the contrary, who have never courted the smiles of learning, or been enlightened with the beams of science, will hug with invincible tenacity the giants and their works. Traditionary legends say, that the Causeway was formed by these Irish Anakims, as a quay on which to land their merchandise. To their art and ingenuity is also ascribed a little crystal fountain, which gushes up between some of the columns, where no wider interstice can be perceived than in other joints. The figures in the foreground mark the relative position of this last specimen of gigantic labour.

To the impartial investigations of sober inquiry, nothing, however, appears to induce a belief, that these curious pillars were ever erected by human hands. Innumerable circumstances, on the contrary, forbid the supposition, and direct us to resolve the whole into the operation of natural causes, under given laws impressed on the torpid mass by the almighty power of God.

From the nature of these basaltic rocks, the inhabitants of the British empire might find in them solid materials for repairing their old roads, and forming new ones, and the using of them for this purpose would give to the starving peasantry permanent employment. There can be little doubt that broken basaltes would be found far more durable than the materials commonly used, and, as a natural consequence, would leave a much smaller proportion of dust and mud. In the vicinity of London, the Giants' Causeway might be considered as a mine of wealth; and the expense of carriage, by sea, would not be so great as to prohibit importation to the British metropolis.

ESSAYS.—ON THE EVIDENCE FROM SCRIPTURE, THAT THE SOUL, IMMEDIATELY AFTER THE DEATH OF THE BODY, IS NOT IN A STATE OF SLEEP, ETC.—NO. IV.

(*Continued from p.* 218.)

"THAT the soul, immediately after the death of the body, is not in a state of insensibility," is evident—1. from visions; 2. from metaphors; 3. from particular doctrines; and, 4. from positive declarations contained in the sacred writings.

1. From visions. By visions is meant a supernatural appearance. In this way, the Almighty frequently manifested himself to the old testament patriarchs and prophets; and to many of the new testament saints and apostles. At the inauguration of Moses, we have, in the memorable address to him, the following words, "I am the God of thy father, the God of Abraham, the God of Isaac, and the God of Jacob," Exod. iii. 6. An infallible commentary upon these words, by an infallible teacher, is found in Matth. xxii. 22, 23; from which he infers, first, the existence of the soul after the death of the body; secondly, the resurrection of the body.

The doctrine which we now advocate is proved from the above passage, by sound syllogistic reasoning.

God is not the God of the dead, but of the living. But He is the God of Abraham, Isaac, and Jacob; therefore, Abraham, Isaac, and Jacob, are living.

Men can only be said to live, when their souls and bodies are capable of acting: Abraham, Isaac, and Jacob, are living; but their bodies are long since dead and buried; therefore, it is not their bodies but their souls which act.

Nothing acts when in a state of sleep, or insensibility: but the souls of Abraham, Isaac, and Jacob, act; therefore, they are not in a state of sleep, or insensibility.

It may be laid down as a theological axiom, that, wherever the scriptures speak of the dead, as in a state of existence, it is to inform us either directly or indirectly of the soul being in state of active existence. The perverse construction which Dr. Priestley puts upon the passage which has just been quoted and illustrated, is a lamentable instance of prejudice clouding the brightest intellect. Had the doctor recollected that our Lord, when quoting the words in question, was addressing the Sadducees, who denied the separate existence of the soul from the body, as well as the resurrection of the body; he would have perceived a sufficiency of force in the argument to overcome the Sadducean heresy.

"Though Moses and Samuel stood before me, yet my mind could not be toward this people," Jer. xv. 1. Some commentators say, that this passage refers to the successful intercession of Moses with the Almighty, when the Israelites had been guilty of worshipping the golden calf; and to that of Samuel praying so successfully, that the Lord delivered Israel from the hands of the Philistines. The passage implies that the souls of Moses and Samuel were in a separate state of existence; and that there was a possibility of their making their appearance, as mediators between God and the offending Jews.

"Though Noah, Daniel, and Job, were in it, (the land) they should but deliver their own souls by their righteousness, saith the Lord," Ezek. xiv. 14. Daniel and Ezekiel were contemporaries; and, according to our common chronology, Daniel was in captivity when these words were spoken. To inform us that the spirits of the two others are in a separate state of existence, they are classed with the living prophet.

"After six days, Jesus taketh Peter, James, and John, his brother, and bringeth them up into an exceeding high mountain apart, and was transfigured before them, and his face did shine as the sun, and his raiment was white as the light. And behold there appeared unto them, Moses and Elias talking with him," Matth. xvii. 1, 2, 3. How they could distinguish these two noted men, whether by the concordance of their appearance with the scriptural account of them, or by supernatural influence, is not now the inquiry. It is sufficient to observe, that the one had been dead about fourteen hundred years; and the other had been caught bodily up to heaven, about nine hundred years previous to their appearance on the mount. The circumstance of Elijah passing out of this world, without travelling by the way of the valley of the shadow of death, adds weight to the arguments on the behalf of the separate existence of the soul after death. For as Moses accompanied him on the present occasion, it is implied that they are together in a state of existence.

"And one of the elders answered, saying unto me, What are these which are arrayed in white robes? and whence came they? And I said unto him, Sir, thou knowest. And he said unto me, These are they which came out of great tribulation; and have washed their robes, and made them white in the blood of the Lamb," Rev. vii. 13, 14. Though commentators differ in their opinions concerning the precise application of this vision, yet they all agree that the

phraseology refers to the immediate happiness of the souls of the righteous at death. The judicious Lowman thinks, that it is most applicable to the church in a glorified state; and that it is to give us an idea of the honour, purity, and dignity of the saints in heaven. As the book of Revelation is a prophetic history of the church, from the days of the apostles to the end of time; and as this scene was previous to the resurrection, and as the bodies of the saints will not be revived till the resurrection; so it is evident, that what is said of them here, refers to their souls between death and the resurrection. They are before the throne of God, not in a state of sleep and insensibility, but, "serving him day and night in his temple."

"And I heard a voice from heaven as the voice of many waters, and as the voice of a great thunder; and I heard the voice of harpers harping with their harps, and they sung as it were a new song before the throne, and before the four beasts and the elders, and no man could learn that song, but the hundred and forty-four thousand, which were redeemed from the earth," Rev. xiv. 2, 3. Without attempting to explain who are meant by the four beasts, (ζωα, living creatures,) and the elders—we may venture to affirm, that by those redeemed from the earth, are to be understood those souls which have been redeemed, and shall be redeemed, from their sin by the blood of Christ, and received into the heavenly state, when separated from their bodies by death. As this vision, in point of time, was also previous to the resurrection, so those souls must, in a separate state, be enjoying heavenly bliss, while their bodies are mouldering in the dust. Those who object to visions being produced as auxilaries in establishing any doctrine, ought to bear in mind, that He who taught as never man taught, and is the great exemplar of theological teaching, thought it no breach of any critical canon, to call in the aid of a vision to establish the doctrine of the *resurrection of the dead.* T. R.

Huggate, May, 5, 1831.

HOURS OF MEDITATION.—ON THE AUTHORITY OF THE SCRIPTURES.

"All Scripture is given by inspiration of God."—2 Tim. iii. 16.

THE importance of revelation to man, that he might be informed of his nature and destinies, of his situation with regard to his Maker, and of those duties devolving on him to perform, is sufficiently obvious. In revelation only, certainty can take the place of philosophical speculations; here alone can we find a guide which will never deceive. Here should we expect to find that glorious Being, whom we see unfolded in the works of creation and providence more distinctly declared, and his moral perfection unveiled. This is that never-dimmed lamp, which shall shine upon the path of erring man till he shall reach the gates of eternity, shining with rays that

"Divinely beam on his exalted soul."

In considering then the authority of the Scriptures, we will, in the first place, make some remarks on their credibility as a history, beginning with the Old Testament.

The writings of Moses, having a prominent feature as regards their subject and connexion, solicit our most serious attention. This celebrated lawgiver was brought up at the court of the most civilized nation of that time, and was educated by those whose attainments in science and knowledge exceeded perhaps the attainments of any other people in the world. His character he has himself impartially displayed in his own writings, and it has never, from any authentic source, been contradicted. We find his name and office have been mentioned by many pagan writers, who cannot be suspected of endeavouring to support the worship of the true God. Among others, we may mention Diodorus Siculus, Pliny, and Tacitus. Strabo, who obtained his knowledge from Egyptian writers, as appears in Josephus, describes his manner of worship as the most reasonable. The celebrated Longinus, who was a favourite of Zenobia, queen of Palmyra, in his book of the Sublime, gives this honourable testimony: "Thus does he who gave laws to the Jews, who was an extraordinary man, who conceived and spoke worthy of the power of God, when he writes in the beginning of his laws, 'God spake:' what? 'Let there be light, and there was light: Let there be earth, and it was so!'" Chalcidius, who was a follower of Plato, and is supposed to have borrowed many of his ideas from this Hebrew writer, speaks thus: "Moses was the wisest of men, who, as they say, was enlivened not by human eloquence, but by divine inspiration." Pliny likewise mentions Jannes and Jambres, the chief of Pharaoh's magicians, who were chosen to contend with Moses.

From such testimonies as these, we are prepared to credit whatever so extraordinary a personage may advance, which is not of itself contradictory. We are prepared to believe that there was such a person as Moses, and that the writings ascribed to

him were his. We see the character of Jehovah unfolded; we read of the most astonishing miracles, and find it distinctly stated that Moses held intercourse with his Maker. Moreover, we may observe, that so many of these miracles and wonderful transactions took place in the presence of a multitude of witnesses, that their assertion could easily have been contradicted had they been in any respect destitute of foundation. But, no; these extraordinary facts have remained unimpeached by the descendants of those witnesses, from one generation to another, even to the present day.

If we are to place any reliance upon the veracity of Moses, while reading the book of Genesis, we must see that it would have been impossible for him to have described past transactions so minutely and unhesitatingly, without correct information. Tradition might have supplied him with some leading facts, but the rest must have been conjecture. But, can we believe that the lawgiver of the people of Israel, in distinctly describing their origin and peculiarity, should have rested on tradition and conjecture? His knowledge of the divine law and of the legal ceremonies, are declared to be derived from God, and we have no reason, seeing that the Almighty condescended to hold continual intercourse with Moses, to suppose that the whole of his writings were not divinely inspired.

In turning over the other books of the Old Testament, we find the historic evidence in their favour most satisfactory. And, according to Grotius, "they, whose names they bear, were either prophets, or men worthy to be credited; such as Esdras, who is supposed to have collected them into one volume, at that time when the prophets Haggai, Malachi, and Zecharias, were yet alive." Josephus brings forward passages from many heathen historians, that confirm the veracity of scripture history. We may likewise add, that these sacred writers were all holy men, and such as to whom the arguments adduced, with respect to the books of Moses, may apply. Such of the inspired penmen, who, as

> "Prophets from Zion, darted a keen glance
> Through distant age,"

bear their own testimony in their writings, the only comment on which we need dwell being the history of after ages.

There are also other evidences in favour of the inspiration of the Old Testament, which are by no means foreign to the purpose. There is not a single contradiction to the character of God, as before ascertained, from a contemplation of his works. Likewise, the sacred writers, though recording their testimonies at such different periods of time, and under such different circumstances, agree most correctly with each other. We may likewise mention the miraculous fact, that, amidst all the revolutions of empires, more especially those of the Jewish nation, the Scriptures were ever, and still are, preserved with the most anxious care. And to these, as Josephus declares, "after so many ages past, no one has presumed to add, take away, or exchange any thing." Moreover, lest any false version might be given, respecting the promised Messiah, Philadelphus, king of Egypt, son of Ptolemy Lagus, three hundred years before Christ, employed seventy-two learned Jews to give a translation of their Hebrew scriptures, to enrich his magnificent library, leaving the Septuagint as an independent reference for Christians, when the Jewish manuscripts might have been withheld or corrupted.

But it is objected, that in these writings, transactions are recorded which seem almost impossible, such as the miracles of Moses in Egypt, the passage of the Israelites over the Red Sea, their supply of food and raiment, the gushing of water from a rock, &c. The answer to such objections is obvious. If we are convinced of the omnipotence of God by a survey of his works, we are prepared to believe, that any thing short of contradiction may be performed by the Almighty. Besides, we are too apt to imagine, that it is easier to regulate what we call the laws of nature, than, on important occasions, to dispense with them. Now, we shall find, by reasoning correctly, that the power of God is no more displayed in the relation which he has established between cause and effect, than when that relation momentarily ceases to exist; so that, upon the whole, miracles serve to increase our conceptions of the omnipotence of the mighty God.

Objections have likewise been made to the character of the Supreme Being, as revealed in the Scriptures; but we think His attributes are there described perfectly in consonance to that knowledge which we might obtain of Him, from a survey of creation and providence. Does the benevolence of Jehovah beam forth in all his works, the scriptures likewise testify the unbounded love of God to man. Do the sacred writings describe the terrible wrath and anger of God, and his visitings upon the children of men for their iniquities; so we behold the same wrath displayed by God upon the human race, in all the misery and woe that is poured upon the earth. In both cases we may trace the same source,

viz. the holiness of God, and the wickedness of man. Neither can we see any cause for the impeachment of divine justice, but must rather admire the astonishing forbearance and mercy visible in both instances.

With respect to the New Testament, many of the arguments before adduced will still apply. The transactions recorded therein, are such as we might have reasonably expected, if we had placed any confidence in the Hebrew Scriptures. The Jewish prophets continually foretold a Messiah, the time and place of his birth, the manner of his death, and other attendant circumstances; and the character of God, as described therein, completely agrees with the information received beforehand. We need scarcely argue for the antiquity of the writings of the New Testament, since manuscripts are now in the possession of many learned bodies and individuals, as a sufficient testimony; and of some of these the language has for a long time ceased to be spoken.

The Alexandrian manuscript, in the British Museum, was written probably in the fourth or fifth century. Pliny, Tacitus, and others, occasionally mention circumstances concerning Jesus Christ and his religion, which indicate that it is of no modern invention. Ignatius and Polycarp, who lived in the days of the apostles, with others who immediately succeeded them, have preserved many passages of the New Testament, which shew their great antiquity. Dr. Lardner asserts, "That in the remaining works of Ireneus, Clement of Alexandria, and Tertullian, who all lived in the first two centuries, there are more and larger quotations of the small volume of the New Testament than of all the works of Cicero, by writers of all characters, for several ages." And in addition to these we might add, that Celsus, who lived in the second, and Porphyry, who lived in the third century, celebrated as opponents to Christianity, both cited passages from the New Testament. This is gathered from the writings of those who refuted them, as their own are not now extant.

Now, if the Gospels are histories written by men of unblemished reputation, who were eye-witnesses of the facts therein stated, or received them from those who were; and if we find nothing contradicted in any independent history, but rather confirmed, we have some reason for crediting the Evangelists. Let us likewise reflect, that the gospels were written at a time when most of the Jewish nation were living witnesses of facts they did not attempt to contradict; and that the sacred writers had embraced a cause which was most strikingly open to persecution and death, with not the least prospect of worldly advantage. Their credit as historians then cannot be justly impeached.

Several arguments in favour of the inspiration of the New Testament might be adduced. We may mention, the necessity of a correct knowledge of facts the most important, and of the discourses, actions, and even thoughts, of our Saviour. These could not be known, or at least but doubtfully asserted, without a knowledge obtained by inspiration. Likewise, the profound veneration paid to them by the most pious and learned Christians from the primitive times, in supporting doctrines and ceremonies, which would have been trifling, if the writers were only considered as illiterate men, instead of inspired apostles. The preservation of the New Testament during the most violent and exterminating persecutions, while all spurious Christian writings were utterly lost, is wonderful. With respect also to its repeated transcription, we may mention Dr. Bentley's observation: "there never was any writing, in the preservation and purity of which the world was so interested or careful." In these arguments we see no mean evidence of the protecting hand of Providence stretched over the revelation made to man.

Finally, we have the authority of St. Paul himself, in saying, "all scripture is given by inspiration of God," whether our assent is yielded to the Old or New Testament. If the New Testament is inspired, the Jewish scriptures must necessarily be so, for we find them continually quoted as prophecy afterwards fulfilled, and as evidence in favour of the religion of Christ. Should we believe in the inspiration of the Old Testament, we must be prepared, by the prophecies written therein, to believe in the inspiration of the New. St. Paul was an extraordinary man, converted from the blindest obstinacy to the Christian religion, and sent forth as its most ardent teacher. His attainments in holiness have never been contradicted, and his life of piety adds an irresisitble force to what he wrote. We are constrained to confess, that his conversion was attended with the most astonishing circumstances—circumstances, whose credibility has never been impeached by valid contradictions. We are constrained to believe, that he voluntarily gave himself up to poverty, persecution, and death, in order to support the cause of Christianity. In perusing his epistles, we cannot but acknowledge that his piety was extraor-

dinary—that something superior to enthusiasm had thus directed his mind, and supported him for years under the greatest persecutions. Yes:—we feel convinced, that he must have been under the influence of the Spirit of the Most High; and thus we place unshaken confidence in his knowledge and veracity, when he asserted, "All scripture is given by inspiration of God."

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CREATION.—NO. IV.

ELOHIM having created the materials, and brooded over them, maturing the whole mass in the operation of creation, proceeds to the formation of spheres, atmospheres, ethers, &c. &c. and to the erection of this universe.

It was the second day, "And God said, Let there be a firmament in the midst of the waters, and let it divide the waters from the waters. And God made the firmament, and divided the waters which were under the firmament, from the waters which were above the firmament: and it was so. And God called the firmament heaven. And the evening and the morning were the second day," Gen. i. 6, 7, 8. Or, as it may be rendered: Elohim pronounced, Amidst the terraqueous fluids, let there be an expansion, and let it divide fluids from fluids! And Elohim formed the expansion, dividing the fluids below in the expansion, from the fluids above in the expansion: and it was done. And Elohim denominated the expanse heaven. And Elohim surveyed the expanse, and, behold, it was beautifully perfect. The evening was, and the morning was, the second day.

In Number III. of these essays, (p. 163.) we left the created materials of the universe in one huge mass, occupying the centre of the system, in the state of individual atoms or fluidity, while the broodings of the Spirit of God were in action, inducing a genial disposition therein, to receive and nourish the seeds destined to vegetate and adorn the spheres. Light, also, being created, was thereby diffused throughout the universe.

All the materials already created are on this day brought into use, and every portion thereof has its post assigned, in due order. That powerful agent, light, called into exercise, in the hands of the Creator performs wonders; while affinity, attraction, repulsion, gravitation, with all the progeny of light, co-operate, and, under the wisdom and power of the great Operator, produce an expansion of the atoms, and form a firmament as indurable as time itself. The huge mass of atoms becomes many masses, each assorted and disposed, by infinite wisdom, into a sphere, and placed each in an orbit, at such distances from the central orb, and from each other, as would form due balances, each to each, and a perfect equipoise to the whole system. A word is a work with God: He pronounces, "Let there be an expansion!" It is formed—the vast fabric is erected—this universe is furnished with orbs. He surveys the whole, and pronounces it beautifully perfect!

We must stop for a moment, in order to consider the firmament or expansion thus brought into existence. Prior to the creation of the solar system, that portion or space assigned for its reception, was void or empty space. It afforded room for the reception of this universe, but it did not furnish any suitable substance for the accommodation thereof: all things, therefore, genial thereto, must be provided by the Omnipotent; and these he produced, each in its order, during the progress of creation. Using the materials, already created, with light, a fine and pure ether is distributed throughout this space, in which the orbs, now called into existence by the Creator, and imbued with attraction, float securely and unimpeded, surrounded each by its own atmosphere, along its orbit, in serenity.

This expanse, or ethereal, is a perfect firmament. Adamant itself, piled up to heaven, could not sustain the ponderous orbs which roll therein, around their central sun, with greater security than these ethers, fine and subtile as they are, have sustained nearly six thousand years, and continue to sustain them to the present hour. If,—

> "In the thin air, without a prop,
> Hang fruitful showers around,"

in these yet thinner ethers, needing no foreign aid, the stupendous orbs hang and move, each in its orbit, with exactness, amidst sublime serenity, far from the wreck of storms.

All the created atoms were, up to this moment, individual, and in a state resembling fluidity, which afforded every facility to these immense operations. Had solidity taken place previous to this great work, what an increase of labour must have ensued, in order first to separate, as well as afterwards to compound, these materials, in proportions meet to construct the spheres. Distinct atoms or fluids are compounded with the greatest ease, in chemical and other operations of art, but, in order to compound solid bodies, they must either be reduced to powder, or dissolved in liquids, with great labour;

and, after all, must be rendered solid again, at a great expense of time and pains.

The economy of the Creator, whether He creates, or operates upon created matter, is equally obvious. If the materials for each orb in the solar system had been separately and distinctly created, in the very orbit in which it was destined to move, then must there have been as many creations as there are primary and secondary planets in this universe, besides one upon a larger scale for the central sun. If these spheres had been formed from solid masses, then it would have required great labour to fashion them into the precise form intended; and the power required, in the first instance, to render the atoms into a solid, would have been wasted. In the sacred volume we read, "If the iron be blunt, and he do not whet the edge, then must he put to more strength: but wisdom is profitable to direct," Eccles. x. 10. To whet the edge, is an act of wisdom, in this quotation, because thereby labour is economised; and thus it is, that wisdom becomes power. Surely, He who inspired this advice into the bosom of the sacred penman, could avail Himself of the advice which He gives. That He did avail Himself thereof, and that the wisdom of the Creator is throughout His work as obvious as His power, is so clear to my mind, that I must bear my unequivocal testimony to that solemn truth. The greatest care imaginable is taken to remind the reader, that the materials on which the Creator was then operating, were fluid; for the word occurs no less than five times in the sixth and seventh verses.

There are errors also on the opposite side. Fluids are so frequently named, and, in the authorized English version of the Bible, rendered waters, that the outcry is, "Nothing but waters were created in the first instance." Then, in order to account for the solids which now appear, vegetation and animation of fish and amphibious animals, upon a large scale, and of enormous size, are resorted to; and out of the solids of these, soils and strata are formed, in the imaginations of geologists, of all dimensions. Wonderful indeed! But the Bible does not need the help of such men: it is clear enough, without such scientific romances as these. Water is not an element, as it was long supposed to be; it is a compound substance, and itself needed the forming hand of Elohim, after the atoms of the creation were matured, to call it into existence, in the use of His active agent, light, upon the elementary substances, hydrogen and oxygen; and this day it was called into existence, amidst those combinations which resulted from the operations of light.

The created atoms were destined to become the bases of all the solids in the universe; yea, even the atoms of the gases, as well as the rest. Every gas with which we have become acquainted, may be found in a solid state. Hydrogen is solid in coal, ice, &c. &c. Oxygen in ice, and the countless oxides which every where abound around us. Carbon is solid in coal, limestone, diamond, timber, &c. &c., and so on of all the rest. All the other atoms become solid by crystallization, cohesion, combination, &c. &c., although, in the state of individual atoms, they are fluid. The atoms, therefore, are the bases of all solids. Light is itself a fluid, incapable of concretion, and all the atoms owe to its operations the modifications which we behold in them, in a nearer or more remote degree: it may, therefore, be denominated the base of the fluids.

The aggregate of this day's operations, by rarefaction and consequent expansion, completely filled the space allotted to the universe; for the firmament is said to be in the midst of the fluids, viz., in the midst of the orbs and atmospheres, (which were on this day in a fluid state,) filling up every where all the spaces. But if all the spaces were filled up, then must the spheres revolve in ether. When we take into the account the revolutions of that immense central orb, the sun, and, around this centre, the revolutions of all the planets, primary as well as secondary, with their diurnal and menstrual, as well as annual motions, and contemplate the wide and lofty orbits assigned to these, vast as is the expanse, the whole universe, from the unceasing rush of these fleet and stupendous spheres and atmospheres, must be the seat of universal and incessant motion. What a scene do we behold—a scene enough to dazzle the most steadfast eye, could it discern the minute of this vast action!

Space is infinite in extent; no lack, therefore, exists of room wherein to place the most extensive system: of this the Creator availed Himself, and took ample room for this universe. Had the orbs therein been crowded into a smaller space, the attractions of each with each, and the rush of others from passing spheres, must have induced disorder; while the rapidity of their motions, too near the human eye, would have disturbed, and perhaps distracted, human kind, as well as the remainder of animation, and even vegetation.

It is no disparagement to the great Creator, after having created light, to use this,

His creature, in His future operations. If, on surveying creation, we behold attraction, repulsion, gravitation, and the tenfold entities, perhaps children of this common parent, light, although their generation has not yet become obvious to us, which actively operate on created matter, and note the almost universal use which the Creator made of these in the modifications of the matter of the universe, in order to adapt that matter to the several purposes for which He originally created it, can we wonder at this? Surely not. But there are who, beholding these, pronounce that they alone formed the universe! A greater absurdity would not exist than this, if certain men, beholding the marks of tools on a splendid edifice, were to assert that the tools themselves had finished the fabric, instead of the workmen.

All the efformations of the Infinite bear the stamp of the Creator; they are at once perfect and inimitable. Who can create and form an universe? Yea, who can create and form a single sphere? Nay, who can create an atom? No man, no number of men: no spirit, save Jehovah—no, not all the other spirits in existence. Jehovah is Lord alone: He only can create, and alone He can destroy.

Elohim denominated the expanse, heaven. The beauty and loveliness of this azure canopy, decked with astral luminaries, each wandering far and wide, yet ever and anon returning, in its place, with a resplendent sun; lord seeming he to lesser lights around, serenity and order all, yet variety—a changing scene, well portrays the Creator—Lord of all, while seen by man—meet image of His loveliness, Himself unseen, save in these His works. If this, the gazer's soul exclaims, be heaven, what is that heaven of heavens where He delights to dwell, who all created, and who over all sways, Lord—Himself the glory of the glorious scene, imparting to his sons, and in each spirit living, the life, the joy of all? Well may the soul of man devoutly cry, O glorious Lord, to me disclose thy heaven—the heaven of heavens—thy seat, where thou delightest to dwell! There may my spirit live, and in thy presence taste those joys, for ever thine; nor thine to hoard from man, but, beneficent, to give; felicity creating where they flow, and glory inexpressible, eternal as thy throne!

WILLIAM COLDWELL.

King Square, May, 1831.

A BRIEF SKETCH OF THE LIFE OF THE REV. DANIEL WATERLAND, D.D.

DANIEL Waterland, a very eminent divine, and the ablest master of the Trinitarian controversy that ever lived in England, was born at Wasely, in Lincolnshire, in the year 1683. His father was the Rev. Henry Waterland, A.M. rector of that place.

He received his school education in Lincoln; and his academical, at Magdalen College, Cambridge, under the tuition of the Rev. Samuel Barker, of that place. He was first scholar, then fellow, and, commencing tutor, he became a great ornament and advantage to the college. In this latter capacity, he drew up a tract, under the title of "Advice to a Young Student, with a Method of Study for the first four Years," which has gone through several editions.

In the year 1713, he became master of the college, and obtained the Rectory of Ellingham, in Norfolk, and was soon after appointed chaplain in ordinary to George I. In the year 1720, he preached the first course of lectures, founded by Lady Morgan, for the defence of our Lord's divinity. He was presented in the following year, by the Dean and Chapter of St. Paul's, to the rectory of St. Austin and St. Faith, in London, and soon after, was promoted to the chancellorship of the church of York, by Sir William Dawes, archbishop of that province.

In the year 1827, he was collated by his diocesan to the archdeaconry of Middlesex, and His Majesty conferred on him a canonry in the church of Windsor; and that chapter presented him to the vicarage of Twickenham. He now resigned the rectory of St. Austin, not being willing to hold two benefices at once, with the cure of souls. He died in the year 1740, at the age of fifty-seven years, and was buried in the collegiate church of Windsor, leaving behind him a name that will ever be an ornament to the Church of England.

A collection of his sermons was published after his death. As a controversialist, he was firm and unyielding, but he was accounted fair and candid, free from bitterness, and actuated by no persecuting spirit.

S. BURGESS.

February 14th, 1830.

A TALE FROM THE BERMUDAS—SOMERS ISLANDS.

THESE romantic emeralds on the Western Ocean, so far as climate is concerned, have a most Eden-like appearance. All is miniature beauty; far, very far, from the wild and natural grandeur of America. The violet is not more unlike to the sturdy oak, nor the pink to the tall pine, nor a grain of sparkling sand to one of the huge Andes, than the Bermudas are to that gigantic

continent, in its majestic and boundless forests. Yet, from these insulated isles, we select the following tale, for the readers of the Imperial Magazine :—

Many of the houses in the Bermudas have a little garden, the avenues to which are fringed with jessamine and roses. The pride of China is often planted near the front, and, with its green and umbrageous branches, forms both an ornament and a cooling shade. The buildings, which have no taste or symmetry, are perfectly white, and, when seen at a distance, rising in the midst of green, have an agreeable and pleasing appearance. Within the enclosure round the mansion are fig-trees, bananas, pomegranates, and, in some cases, orange, shaddock, and limes: but human art has done little; it is the beauty of the climate, that chiefly makes December as pleasant as May.

Beneath skies for ever blue, the fig-tree puts forth its lovely blossoms, and the orange and the pomegranate spread their swelling fruit. The balmy air is scented by groves of cedar, and in the fields and woods the aloe plant attains the full measure of its growth. The tamarind tree, and mulberry, expand their dark foliage over the sunny scene; and the tall and slender palmeto shoots up in the valley, with its broad diverging leaf. But what is far nobler than all the tiny beauties of nature on these lovely islets, the fair light of truth hath shined with a serene ray; many a negro's cottage has been made glad with the tale of the Cross, and the sweet little landscapes have been rendered still more lovely by the beauties of holiness.

At what time the gospel was first introduced into these green dots on the ocean, I cannot say. Mr. Whitfield visited them in 1744, to recover his health, and at that period preached with his flaming eloquence the doctrines of salvation by faith; and that some blessed fruit budded from the seed then sown, the following little incident will testify.

The writer of this narrative was one day riding through the cedar groves, on the road that leads from Hamilton to St. George, with Mr. W., a merchant belonging to the former place, when his friend invited him to visit a lowly and mean cottage in the bosom of the grove, to pray and converse with one of the oldest female inhabitants of the islands, a widow, and a Christian of the New Testament school. They entered the habitation, where all things within bore the impress of extreme poverty; an old woman, nearly seventy, was waiting upon her mother, a remnant of mortality, who was laid upon the only poor bed the cottage contained. The mother was between ninety and one hundred years of age, and stone blind; I approached her bed, and, taking hold of her withered hand, addressed her, and inquired what were her hopes of that solemn futurity, on the brink of which she seemed to totter.

Though dark and bed-ridden, the sound of such a theme seemed quite familiar. "Christ," said the old woman, "is my only hope; I trust, through his dear merits, to depart in peace, and I am not afraid to die. He hath died for me, and I can trust my soul into his blessed hands."

"When," I asked, "did you find the knowledge of this Saviour, of whom you speak with such confidence?" "Sixty odd years ago," said the aged believer, "did that venerable servant of God, Mr. Whitfield, visit these islands; and, as he often stood in the open air, I, among others, went to hear him. He preached on that text. 'Wilt thou go with this man? and she said, I will go,' Gen. xxiv. 58. All were silent, till a negro called out, 'Will none answer massa?' My desires were drawn with a cord of love; his earnest address, enforced by many tears, melted my poor stony heart, and from that time I became a follower of the Lamb. Sixty years have rolled over my head since that period, but he hath been my comfort by day, and my song in the night season. I have long been a widow, but his promises have been my support, and I know he will not forsake me in my old age, and now my strength faileth." After kneeling by the bed-side of the old saint, and leaving a blessing with the daughter, we resumed our ride.

In musing upon the subject of this visit, Here, thought I to myself, is one of God's hidden ones; the seal of a faithful ministry. In the great day of final audit, how many will be found who have received the word in the love of the truth, but of whose conversion to God, the faithful labourer of the cross will never know in time. They shall, however, meet again, and shine as stars in the crown of those holy men, by whom they were gathered into the Christian fold.

Here was one, who, having had no communion with the visible church, was nevertheless united to its Head; living by faith in the secret source of light, life, love, grace, and comfort, without the sanctuary, streams to water and fructify the good seed, not planted in the Lord's house, and yet bearing fruit in old age. Here was a jewel unknown to the church, "the world forgetting, by the world forgot." "While pampered lux-

ury is straining the low thought to form unreal wants," this precious old saint, having nothing, yet possessed all things. Thus, "many a flower is born to blush unseen:" yes, but not "to waste its sweetness on the desert air." In the sight of Jehovah, the gems of the east were not so precious as this aged widow's tears. Neither the roses of Damascus, nor the gardens of Hesperia, diffused half the fragrance of her humble prayers, which in broken accents, interwoven with sighs, found out their way. Her praises were more symphonious in the divine hearing, than either the poetical chiming of the spheres, or the thrilling lyre of old Memnon, breaking the silence of the dawn, and saluting the first rays of the rising sun. Mines of gold and silver bear no value in God's eyes, compared with that believing love, which, like a precious link in the chain of grace, bound her to the cross of Christ, to him her soul loved.

How many such are scattered over the wide world, as roses among thorns, or lilies among weeds; but they are known to God in all their solitary affliction; and, though pressed down by poverty and pain, hope in the Lord sheds a cheering radiance over their solitary path, and opens the beautiful vista of future glory, through the cross of Him who has claimed the poor as his family, and identified himself with the humblest of his suffering followers.

JOSHUA MARSDEN.

THE SLAVE TRADE ABOLISHED IN INDIA.

IN consequence of five bills of indictment, for offences against the act of parliament making the traffic in slaves felony, having been recently found by a grand jury at Bombay, against the captain of the East India Company's cruiser, the Clyde, it has become a subject of interest to the public in this country, to know when that act took effect in India, and what proceedings have been adopted, with a view to prevent the traffic in slaves, in that part of the world.

On referring to different documents which have been published on the subject, we find, that Sir Alexander Johnston, the late chief justice, and president of his majesty's council, in Ceylon, took various steps on that island, at different times, from 1802 to 1809, for preventing this unnatural commerce—that in 1809, having been officially sent to England, by the government of the island, to propose to his Majesty's ministers several alterations and improvements in many of the departments of that government, he, on his return to Ceylon, in the year 1811, carried out with him a new commission, framed under the act of 1806, for trying pirates; which authorized himself, and certain other persons, to try all such offences as might be committed within the limits of Ceylon against the act making the traffic in slaves a felony; and, that a very remarkable case of the sort having occurred in Ceylon, in 1813, he, and the other commissioners, held a special session under the commission, at which three prisoners were convicted of the offence of traffic in slaves, and were publicly punished for it.

As this was the first proceeding which had taken place in India under the above act, it excited much interest, and was considered as the first public promulgation which had been made from any British settlement, to the natives of Asia, Africa, and Arabia, of the principles upon which the British nation was determined to act towards those who were guilty of traffic in slaves in India, and of the humane intentions by which the British legislature had been actuated, in passing the act to which we have alluded.

An additional degree of interest is attached to these proceedings, as they are in some degree connected with the resolution, passed three years afterwards, by all the proprietors* of slaves, on the island of Ceylon, declaring free, all children who should be born of their slaves, after the 12th of August, 1816; and thereby putting an end to the state of domestic slavery, which had prevailed in Ceylon for upwards of three centuries.

As the charge which Sir Alexander Johnston delivered to the grand jury, upon the trials to which we have alluded, contain a full account of all the circumstances connected with the commission, under which the session was held, and as it was published in the Ceylon Government Gazette, in the year 1813, we insert a copy of it:—

"Gentlemen of the grand Jury—As this is the first time that we have acted under the commission which has just been read, and as his Excellency has done me the honour to refer you to me in my official capacity, for such information as may be requisite on the occasion, I shall take the liberty to explain to you,

"First, the origin of the act of parliament which has made a felony of the offence with which the prisoners are charged.

* The number of the proprietors of slaves who passed this resolution, was 67, and the number of slaves to whose children the resolution referred, was about 10,000.

"Secondly, the nature of the court before which, according to the provisions of that act, the prisoners are to be tried.

"Thirdly, the duties which you, as grand jurymen, will have to perform when the indictments which have been prepared against the prisoners are laid before you.

"In contemplating the history of the human race from the earliest period of society to its present state of unparalleled civilization, there is no event more worthy of consideration, either in a moral or in a political point of view, than the long duration of the African slave-trade, and the peculiar circumstances under which its final abolition has taken place in Great Britain.

"For three centuries, the most civilized nations in the world, professing the mildest and the most humane religion that can be imagined, had been, from motives the most selfish, deliberately engaged in reducing, by means the most unjustifiable, millions of their fellow-creatures from a state of freedom, and comparative happiness, to a state of slavery not less abject than destructive to the human race—when at length Great Britain, herself though deeply interested in this extraordinary trade, herself though likely to be the greatest loser by its immediate abolition, urged by the manly and the persevering eloquence of one of the most benevolent characters of this or any other age,* publicly proclaimed that it was contrary to the principles of justice and humanity, and that therefore it should be unlawful for a British inhabitant to engage in it, in this or in any other part of the world.

"It is a subject of congratulation for the friends of humanity in general, that this measure has been adopted by Great Britain at a period when the political events of the age have given her such maritime power and such immense dominions as to insure a ready obedience to her laws, and a decisive influence to her example—it is a subject of consolation for the British nation in particular, that a sovereign, whose great virtues we all admire, and whose present affliction we so sincerely deplore, should have had the fiftieth year of his long and eventful reign rendered memorable in history by the most extensive act of humanity that has ever been recorded in ancient or in modern times.

"The slave-trade first became a subject of public interest, and of public discussion, in England, in the year 1788. In consequence of the proceedings of that year, a committee of the Privy Council instituted an inquiry into all the circumstances of the trade; and a great body of information, the result of that inquiry, was laid before the parliament in the year 1791. Various attempts were made between 1791 and 1806, but without success, to induce parliament to abolish the trade. At last the two houses of parliament did, by their resolutions of the 10th and 24th days of June, 1806, severally resolve, that the African slave-trade, being contrary to the principles of justice, humanity, and sound policy, they would, with all practicable expedition, take effectual measures for the abolition of the same, and, in conformity with their resolutions, an act was passed on the 25th of March, 1807, declaring the trade to be unlawful.

"It having, however, been found, that several persons did, notwithstanding the provisions and penalties of that act, continue to deal and trade in slaves, on the coast of Africa and elsewhere, the House of Commons did, by its resolution of the 15th June, 1810, resolve to take such measures as might effectually prevent such daring violations of the law; and an act was passed on the 14th May, 1811, (which has been in force on this island since the 1st of January, 1812,) declaring it to be felony for any subject of his Majesty, or for any person residing or being within the United Kingdom, or in any British possession, to trade in slaves in any part of the world, and directing, in substance, that all persons who should offend against its provisions should be tried before such courts as had the power, either in Great Britain, or in its colonies, to try offences committed on the high seas.

"Having in the first place, gentlemen, explained to you the origin of the act which makes a felony of the offence with which the prisoners are charged, I shall, in the second place, proceed to explain to you the nature of the court in this colony, before which, according to the provisions of that act, the prisoners are to be tried.

"From the earliest period of the British history, to the 28th year of the reign of Henry VIII., all offences committed on the high seas were tried in England, either before the Lord High Admiral, or his deputy, according to the rules of the civil law, without either a grand or a petit jury. As the rules of that law required either the confession of the offenders themselves, or direct and disinterested evidence of their having committed the offence, before any judgment of death could be given against them, many serious offences were committed with impunity; and the attention of the legislature being called to the subject, in the twenty-eighth year of the reign of Henry VIII., an act of parliament was in that year passed, reciting the circumstances which I have just

* Mr. Wilberforce.

mentioned, and enacting, that for the future, all offences committed on the high seas should be tried in England before certain commissioners, according to the common course of the English law, with a grand and petit jury. And it is in that manner that all offences committed on the high seas have been tried in England from that reign to the present period.

"Great Britain having gradually acquired several possessions in the East and West Indies, and numerous acts of piracy having been committed with impunity, in consequence of no tribunals having been established in those possessions for the trial of such offences, an act was passed in the 11th and 12th of King William, which enabled his Majesty to issue commissions to certain persons in the colonies, authorizing them to try all piracies, felonies, and robberies, committed upon the sea, according to the particular provisions of the act, without a grand or petit jury. Under the above act, a commission was issued in February, 1799, by his present Majesty, to certain persons in this colony, authorizing them to try all piracies, felonies, and robberies, committed upon the sea in the manner prescribed by that act. This commission continued in force till the year 1806, when the Legislature, having taken into consideration, that the commissioners acting under the 11th and 12th of King William had no power to try treasons, murders, and various other felonies and misdemeanours, and having judged it proper, that one uniform course of trial should be had in every part of the British dominions for all offences committed upon the seas, passed an act in that year, which enabled his Majesty to issue commissions to certain persons in the colonies, authorizing them to try all offences committed upon the seas, with a grand and petit jury, in the same manner as such offences are tried in England, under the 28th of Henry VIII.

"In pursuance of this act, his Majesty, in September, 1810, issued the commission by which we are now assembled, revoking the commission issued in February, 1799, and directing us to try all offences committed upon the seas, according to the provisions of the 28th of Henry VIII. As the act under which the prisoners are now to be tried, directs that they shall be tried at the same tribunal before which offences committed upon the seas are tried, it follows, that they must be tried before this tribunal, it being the tribunal, int his colony, before which all offences committed upon the seas are tried.

"Having, gentlemen, in the first place, explained to you the origin of the act which made a felony of the offence with which the prisoners are charged, and, in the second place, the nature of the tribunal before which, according to the provisions of the act, they must be tried, I shall, in the last place, proceed to explain to you, the duties which you will have to perform as members of the grand jury. They may be considered under two heads: under the first, such as relate to the power of making presentments; under the second, such as relate to the power of allowing or rejecting indictments. As to the first, it is unnecessary for me to say any thing to you on the present occasion, it being very improbable, from the limited nature of this jurisdiction, that you will be called upon to exercise your power of presentment; as to the second, considering the description of persons who form the grand jury, it might appear presumptuous in me, were I to say much.

"The British law, with a view to the anxiety which every person of respectable character must inevitably suffer, even from being put upon his trial for an offence, although he should be ultimately acquitted of that offence, does not allow a person indicted for an offence, to be put upon his trial, unless twelve at the least of his fellow-subjects have, after a mature consideration of the evidence for the prosecution, first of all unanimously decided that there is sufficient cause for putting him on his trial. Upon this principle, the indictments which have been prepared against the prisoners will be laid before you, and it will be your duty, after a mature consideration of the evidence for the prosecution, to decide, whether or not there be sufficient cause to put the prisoners upon their trial. If twelve of you should be unanimously of opinion, that there is not sufficient cause, you will of course reject the indictments, but if twelve of you should be unanimously of opinion, that there is sufficient cause, you will of course allow the indictments, and the prisoners will, in that event, be put upon their trial for the offences with which they are charged.

"Although this is the first time that a grand jury has ever been assembled in this island, I need not, I am sure, speaking as I do to Englishmen, remind you of the innumerable advantages which every country must acquire, where this institution can be established; when we consider what a shield it is to the innocent, and what impartiality it secures for the guilty, we cannot be surprised that an Englishman, however far he may be removed from his native country, should look up with reverence and affection to an institution, the very name of which

has been associated in his mind, from his earliest youth, with every privilege which attaches him to his country, and to his government.

"Indictments have been prepared against six persons; the first is an officer of an Arab ship, who is a native of Mocha, in Arabia, and a person, who, from the number of voyages he has performed, is well known in all the different ports of Madagascar, and of the eastern coast of Africa. The second is a Malay priest, who is an inhabitant of Malacca, and was proceeding from Malacca to Mecca on a pilgrimage, when he was detained at Galle. The third, is a Lascar, who is a native of the Malabar coast, and very well known at all the ports on that coast. The fourth and fifth, are both Lebbes, who are inhabitants of Galle, and belong to that active class of trading Mahometans which is found in every part of the coast of Ceylon. The sixth, is a burgher, who is also an inhabitant of Galle, and who seems to have had considerable intercourse with the foreign ships which are frequently touching at that port.

"Three of the prisoners, as you will perceive, are foreigners, and three of them are British subjects; as the three first were within the British settlements on this island at the time they are charged with having committed the offence, they are as liable as the three last to be tried for the offence, the act under which they are to be tried being applicable not only to British subjects, but also to persons residing, or being within a British settlement at the time they commit the offence.

"The description of the different prisoners, their respective places of residence, the particular classes of people to which they belong, the impression which the detention, though short, of the Arab ship, is likely to produce at Mocha and at Malacca, the regular intercourse which subsists between Mocha and the coast of Africa on the one hand, and between Malacca and the Eastern Islands on the other, the number of slaves with which that coast and those islands have for ages supplied the different parts of Asia, the lively interest which the people of that coast, and of those islands, must of course take in the subject, are all circumstances which must give the most extensive publicity to the proceedings of this session, and it is with a view to these circumstances, we are bound to conclude that, whatever may be the result of the trials, the proceedings themselves must inevitably be attended with the most important effects, and must be considered as a solemn promulgation made from this place to the people of Asia and Africa, of those exalted principles of humanity which have actuated the conduct of the British Legislature on the present occasion, and which must, sooner or latter, be productive of the most beneficial consequences to the civilization and happiness of a very great portion of the human race."

NEW METHOD OF GIVING A FINE EDGE TO RAZORS.

In the first Number of a Quarterly Journal of the Royal Institution of Great Britain, lately issued from the press, among other scientific and useful articles is the following from the pen of Mr. Knight, "On the means of giving a fine edge to Razors."

"The machinery consists of a cylindrical bar of cast steel, three inches long without its handle, and about one-third of an inch in diameter. It is rendered as smooth as it can readily be made with sand, or, more properly, glass-paper, applied longitudinally; and it is then made perfectly hard. Before it is used it must be well cleaned, but not brightly polished, and its surface must be smeared over with a mixture of oil and the charcoal of wheat straw, which necessarily contains much siliceous earth in a very finely reduced state. I have sometimes used the charcoal of the leaves of the *Elymus arenarius*, and other marsh grasses; and some of these may probably afford a more active and (for some purposes) a better material; but upon this point I do not feel myself prepared to speak with decision. In setting a razor, it is my practice to bring its edge (which must not have been previously rounded by the operation of a strop) into contact with the surface of the bar at a greater or less, but always at a very acute angle, by raising the back of the razor more or less, proportionate to the strength which I wish to give to the edge; and I move the razor in a succession of small circles from heel to point, and back again, without any more pressure than the weight of the blade gives, till my object is attained. If the razor have been properly ground and prepared, a very fine edge will be given in a few secouds; and it may be renewed again, during a very long period, wholly by the same means. I have had the same razor, by way of experiment, in constant use during more than two years and a half, and no visible portion of its metal has within that period been worn away, though the edge has remained as fine as I conceive possible; and I have never, at any one time, spent a quarter of a minute in setting it."

ON CALORIC.

The question, what is caloric; or, as it was formerly called, heat? has puzzled philosophers and chemists, from the earliest ages to the present day. Theories have been promulgated in abundance, but a satisfactory solution of the problem has never been given. By some, caloric is thought to be an existent material fluid, of such tenuity and imponderability, as to escape the minutest observation, and only to become manifest by its effects on other bodies. Others suppose, that caloric is not material, but is a property, or principle, of motion, which, by exciting a certain species of vibration among the particles of bodies, causes the sensation and effects of heat.

The first hypothesis, which considers caloric as a substance of extreme tenuity, great elasticity, imponderable, and invisible, is said to have been proposed by Boerhaave. It was advocated by Hamberg and Lemery, and it may be considered the favourite system of chemists in the present day.

The chief arguments in favour of this hypothesis are, that as the addition of caloric to most bodies produces their expansion, it is most natural to suppose, that this effect is owing to the actual insertion of a material substance between the various particles of which the bodies may be composed. The transfer of measured quantities of caloric to effect given purposes of expansion, fusion, vaporisation, or the contrary, is another strong argument on this side the question. The passage of caloric through a vacuum, is also advanced, on the same side; because it is not possible to conceive how, if heat be a property of matter, it should be freely propagated where no matter exists. The experiments of Herschel and others, which tend to prove the distinct separation of heat from light, and that the laws which they obey are analogous, though not identical, have been brought forward in favour of the material hypothesis, as proving the materiality of heat equally with that of light.

The second opinion, or, what is called the vibratory hypothesis, i. e. that heat is merely a property of matter, and that it may arise from the vibrations of the molicules, or minute particles, of which matter is composed, is attributed to Bacon, and is thus explained in his own words: "*Calor est motus expansivus, cohibitus, et nitens per partes minores*:" Heat is an expansive motion, confined and active in its smallest particles. The chief supporters of the vibratory hypothesis were Boyle and Newton formerly; and latterly, Count Rumford, Professor Leslie, and Sir Humphrey Davy. The arguments against the materiality of caloric are, that the most careful experiments, made for the purpose, never could prove it to be ponderable; it therefore does not seem to possess the ordinary sensible properties of matter—weight, and obedience to the laws of mechanical motion: also, from the experiments of Count Rumford, it seems that friction is an inexhaustible source of heat in the same given substance.

The following is Sir Humphrey Davy's opinion in his own words:—

"The immediate cause of the phenomenon of heat, is motion; and the laws of its communication are precisely the same as the laws of the communication of motion. Since all matter may be made to fill a smaller volume by cooling, it is evident that the particles of matter must have space between them; and since every body can communicate the power of expansion to a body of a lower temperature; that is, can give an expansive motion to its particles; it is a probable inference, that its own particles are possessed of motion; but as there is no change in the position of its parts, as long as its temperature is uniform, the motion, if it exist, must be a vibratory or undulatory motion, or a motion of the particles round their axes, or a motion of particles round each other.

"It seems possible to account for all the phenomena of heat, if it be supposed that in solids the particles are in a constant state of vibratory motion, the particles of the hottest bodies moving with the greatest velocity, and through the greatest space; that in liquids and elastic fluids, besides the vibratory motion, which must be conceived greatest in the last, the particles have a motion round their own axes, with different velocities, the particles of elastic fluids moving with the greatest quickness; and that, in ethereal substances, the particles move round their own axes, and separate from each other, penetrating in right lines through space. Temperature may be conceived to depend upon the velocities of the vibrations; increase of capacity, on the motion being performed in greater space; and the diminution of temperature, during the conversion of solids into fluids or gases, may be explained on the idea of the loss of vibratory motion, in consequence of the revolution of particles round their axes, at the moment when the body becomes liquid, or aeriform; or from the loss of rapidity of vibration, in consequence of the motion of the particles through greater space."

As advocates for each of these theories, there will be found some of the most distinguished names, that have ever done honour

to the intellect of man; but, after all, their speculations have produced little that is convincing to others, or even satisfactory to themselves. A short abstract of the principal facts which have resulted from the experiments tried by philosophers advocating both theories, will be submitted to the reader, and he may judge for himself which system seems most likely to explain the various phenomena.

It is a general fact, that all substances experience an enlargement of their volume by an increase of temperature. The apparent exceptions to this law, can scarcely be considered such as to destroy its generality, though they present irregularities in its application, which it would be injudicious to overlook. Such is the contraction of water, by an increase of temperature below 40° of Fahrenheit. The expansion of some metals at the instant of congelation after fusion, is probably owing to a tendency of their particles to arrange themselves in a crystalline form. In solids this enlargement of bulk is not so great as in liquids, but it is the most conspicuous in the aeriform fluids, or gases; and it appears that the greater the absolute dilatation, the less is the force with which it takes place. For instance, the dilatation of the gases may be overcome by the confinement of strong vessels; but in the case of liquids, or solids, the force of this power seems almost irresistible. The strongest rocks are rent by the expansive force of water freezing in their fissures; and strong cannon have been burst in a similar manner, by water confined within them.

The actual expansive force of solids in the process of heating, has not been made the subject of any thing like admeasurement; but a very curious application of the force exerted in the converse operation of cooling, was made a few years ago, in Paris, by M. Molard. It was discovered, that the side walls of a large room filled with engines, at the Conservatoire des Arts and Métiers, were bulging outwards, from the great internal pressure. To remedy this, strong bars of iron were passed quite through the building; the extremity of each bar passing through the main outer wall. The ends of the bars were formed into screws, and fitted with nuts, which, being screwed up closely to the wall, might have served to prevent further mischief. Still, however, the walls had to be brought into their original position, to effect a complete cure; this was accomplished by heating each bar, a row of lamps being placed beneath it, for the purpose; the heat of the lamps having produced a considerable elongation of the bars, during this expanded state of the metal, the nuts were screwed up close to the wall again, and, upon the removal of the lamps, the contraction of the bars actually brought together the walls of the building. The operation was repeated upon alternate bars, till the walls had been restored to their true vertical position.

It is well known, that provision must be made for the expansion or contraction consequent upon a change of temperature, in the construction of iron bridges, and the pipes which are placed under ground for the conveyance of water or gas. Where the lengths of the pipes are very considerable, it is necessary to have some points moveable; so that, by the end of one tube sliding a little within the other, the accidental changes, induced by an excess or diminution of caloric, are provided for. In measuring the base of a trigonometrical survey, the utmost care is taken to allow for the contractions and expansions of the metallic rods employed, as a slight change of temperature has been productive of very serious mistakes in the admeasurements. The effects of caloric upon the pendulum are well known.

It has been considered as a universal law of nature, that, by a sufficient elevation of temperature, every substance which is originally solid, might be reduced to a fluid state. It is true, that in practice we fall short of this result, partly because the heat which we can produce by artificial means is of very limited extent, and partly from other properties in the constitution of bodies, which interfere with such a consequence. It has, however, been found that every increase which has been made in our powers for the excitement of intense heat, whether by the Voltaic pile, or the gas blow-pipe, has placed various substances in succession, under the operation of this law, which before formed practical exceptions to it, and an absolutely infusible body now is scarcely known to exist. It is true, many substances burn rather than melt, but this depends upon what is called chemical affinity, by which it happens, in some instances, that a new combination is formed, upon the subversion of the original one.

In some cases, the passage of a solid into the fluid state, upon the application of caloric, is made immediately, without any intermediate process of softening; such is the fusion of ice, frozen mercury, and some of the metals. It has been remarked, that this process chiefly holds good as it regards those bodies, which, in congelation, affect a crystalline structure. Other bodies, on the contrary, seem to change gradually from

solid to liquid, passing through every intermediate degree of cohesion. Arsenic differs from both processes, this metal, when heated, passing at once from a solid to a gaseous state. It still seems an established fact, that the temperature of fluidity is constant for each individual substance.

The complete explanation of the state of fluidity, with reference to the general physical laws of matter, is not so easy a task as might at first be supposed. It has long been stated, that fluidity depends upon the effect of caloric, which first expands bodies, that is to say, removes their integrant particles, or atoms, to a greater distance from each other, until at length, the power of cohesion being overcome, perfect mobility among the particles brings the substance under the laws and definition of a fluid. But this mode of explaining the action of caloric, will not apply in all cases, for it does not account for the fact, that many crystalline solids actually contract in the process of fusion, which is quite contrary to the hypothesis.

Professor Robison remarks, that "to explain the mobility of a fluid, or the facility with which its parts are separated, it is necessary to suppose only, that the action of its particles, whatever it may be, is equal in every direction at the same distance; as, if this equality exist, no force can be required to move an adjacent particle from one situation to another; nor any force be required, to keep the particle in its new situation with regard to the rest of the fluid. And still the attraction exerted between the particles, provided it be equal, may be strong. On the other hand, in a solid, the particles must attract more strongly in one direction than in another; hence a particular situation of each particle must be assumed, and a force, more or less great, will be requisite to change its position. It follows from this view, that fluidity arises not merely from the weakness of cohesion between the particles, but also from the change in the mode in which they attract each other. But this, at the same time, arises from the expansive energy of caloric, which, in separating the particles to certain distances, gives rise to this change in their mutual action; whence they assume different positions, and attract with a different but equal force. It is probable that this depends on the modification introduced by the figure of the particles of bodies. Within a certain distance this must operate on the strength of the attraction they exert; and they will be retained in a certain position rather than in others. But when, by the repulsive agency of caloric, they are placed at greater distances, this will cease to operate; any effect from figure must be insensible, and the particles will attract equally in all directions—the circumstance which constitutes the liquid form."

By the application of heat, a very considerable number of bodies, both solid and liquid, may be converted into the form of gaseous matter; and as long as a sufficient elevation of temperature continues, the form of an elastic fluid is retained. It is clearly proved, that in this state they are liquids in combination with caloric, for, on violent condensation, they give out a great degree of heat. The only one of the gaseous fluids which has been liquified by cold alone, is ammoniacal gas, which assumes the liquid form at 54° of Fahrenheit. Mr. Faraday has recently shewn, that, by disengaging several of the gases from their state of combination, under such a pressure that the elastic form could never be assumed, they might be exhibited as liquids. As by the increase of temperature all bodies may be melted, and, by a further accession of temperature, pass to the state of an elastic fluid; so, on the contrary, there is reason to believe that, by a sufficient depression of temperature, all those bodies which we know now in a gaseous or liquid state, might be reduced to a solid form. Many philosophers suppose that congelation, or solidity, is the natural state of all substances.

Though great doubt exists relative to the substance of caloric, it is evident that there are three natural sources from whence it may be derived, i. e. the *sun*, *electricity*, and *mechanical action*.

The *sun* is the most obvious and unvarying source from whence heat is communicated to our earth. The solar rays have lately been discovered to possess four distinct powers, i. e. of heating, illuminating, effecting chemical changes, and exciting magnetism; and, it is now generally supposed, that the rays affording light and heat are entirely different, though so intimately blended as to obey the same optical laws. The experiments of Sir W. Herschel on the heating power of the several prismatic rays, showed satisfactorily, that the more refrangible rays possess very little heating power, the calorific effect being at its maximum in the extreme red rays.

It is well known, that when transparent bodies are exposed to the light of the sun, that the heating effect is greatly inferior to that which is produced upon opake substances. Opake bodies, which all equally resist the passage of light, are not equally affected in temperature by its incidence upon them. The power of absorbing caloric

from the sun's rays, depends in a great measure upon the colour. This was made the subject of experiment by Hooke, Franklin, and, more recently, by Sir Humphry Davy.

Dr. Franklin placed some square pieces of cloth of different colours upon a surface of snow, and noted those as the best absorbers of caloric, which sunk most deeply by melting the snow. Sir H. Davy exposed to the sun, one side of six copper plates, which had been painted of different colours. To the opposite side of each plate, he affixed a bit of cerate, which melted at a temperature of 70° of Fahrenheit. The wax melted on the coloured plates in the following order;—first, black; then blue, green, red, yellow; and, lastly, on the white.

The same colours, exposed to artificial heat, present the same results. Cavallo found that a thermometer with a blackened bulb stood higher than one with its bulb not blackened, whether exposed to the sun's rays, the light of day, or the light of a lamp. M. Pictet also found that two thermometers, one blackened, the other not, manifested the same temperature in the dark. Such are the effects of the beams of the sun in their ordinary state, but when condensed by being collected in the focus of a concave metallic speculum, their force is irresistible, and only to be excelled by the powers of the Voltaic pile: the most refractory substances become fused, while the more volatile dissolve in the fervent heat. Count Rumford endeavoured to prove, by a course of experiments, that this great increase of power is not the effect of any change in property, from the altered direction of the rays, by thus concentrating them into a focus, but is solely due to the intensity of action, arising from the accumulation of numbers, thus brought to bear on the same point.

It has long been known that *electricity* is one grand source of caloric, but Dr. Franklin was the first who fused metals by the electric spark. His method was, to place small strips of metal between two plates of glass firmly tied together, and then put them within the circuit of the electrical discharge from a jar or battery. In this experiment the glass is frequently broken, and a partial fusion of both substances takes place. Franklin found that a piece of gold leaf, which he had made use of in this way, resisted the action of nitro-muriatic acid, from the circumstance of its being imbedded in the glass.

One strong fact in favour of the materiality of caloric, as derived from electricity, is as follows.—If a charge from a large jar be passed through a small wire, such a degree of heat is evolved, as to produce the ignition of the wire. In this phenomenon the sudden transit of the electric fluid is the primary cause: now, if what is termed electricity, which is allowed to be a modification of caloric, be in reality a substantial fluid, it would be consistent with observed analogies, that when a considerable mass of this eminently expansible fluid, is forced through a very small channel, and thereby greatly condensed, heat and light should be evolved.

The effects of gradually increasing the power of the charge, when wires of the same length and diameter are employed, are very remarkable. If the wire be iron or steel, its colour is first changed to yellow, then (by an increased charge) to blue; by a further increase it becomes red-hot, then fused into balls, which disperse in a shower of globules, and, lastly, disappears with a bright flash, producing an apparent smoke, which, if collected, proves to be a very fine powder, weighing more than the metal employed, and consisting of it, and a portion of the oxygen of the atmosphere with which it has combined.

The experiments of Mr. Cavallo have shewn that the electric fluid differs in its action upon metals from the common fire, and that they are thus distinct substances. He likewise discovered, in fusing the grains of native platinum by the electric spark, that the largest grains were the easiest acted upon, being agglutinated together by a moderate shock, while the small grey-coloured dust was so refractory as not to shew any signs of fusion, even when examined by the microscope. This remarkable fact has been explained by the discoveries of Dr. Wollaston, that the small grey particles, found mixed with those of the native platinum, are in reality different metals, much less capable of fusion, and now known by the names of rhodium, osmium, and iridium. It has been found by various experiments, that electricity accelerates the transmission of caloric in a remarkable degree; and that metals heated to incandescence by electricity, continue to evolve light longer than if heated by a common fire, other circumstances remaining the same.

There are nominally three modes of *mechanical action*, by which heat is developed,—percussion, condensation, and friction.

If a piece of iron be struck with a hammer, the metal acquires a sensible elevation of temperature, and by repeated blows it

may be made red-hot. Again, in the common process of striking a light with flint and steel, the heat is evolved by percussion; and to such an extent, as to determine a chemical combination between the minute fragments of metal separated, and the oxygen of the atmosphere. The elevation of temperature produced in metals by percussion, is said to be attended by condensation; that is, their density is increased.

The best set of experiments on this subject has been made by Biot, Bertholet, and Pictet. The experiments were made upon pieces of gold, silver, and copper, of the same size and shape; and care was taken that all the parts of the apparatus had acquired the same temperature before the experiments began. It may be shortly stated, that copper evolved the most heat, silver was next in order, and gold evolved the least. The first blow produced the most heat in every instance, and it diminished gradually, and after the third blow was hardly perceptible. The heat acquired was estimated by throwing the piece of metal struck into a quantity of water, and ascertaining the change of temperature which the water underwent. The change of specific gravity in the metals, was found to be proportional to the heat thus evolved, thus shewing that condensation had accompanied the action; hence, when they could no longer be condensed, they ceased to evolve heat. In the rolling of metallic plates, and in the drawing of wires, considerable heat is evolved; and it is worthy of remark, that after the evolution of caloric from any metal by mechanical pressure or percussion, the metal is rendered more brittle, and will not afford any more heat by a repetition of the process, until after it has been again heated in the fire. In this particular the effect of friction seems to differ—the source of heat there appears inexhaustible.

The development of caloric by condensation is shewn most evidently, when aeriform fluids are exposed to mechanical operation. It had been observed, that a slight flash of light accompanied the discharge of an air-gun in the dark; this led to the construction of what is called the condensing tinder-box. This instrument consists of a brass tube about six inches long, closed at one end and open at the other. Into this tube there is fitted a piston, which, by means of a little silk or leather well greased, is made to fit the tube accurately. At the end of the piston, a fragment of a particular sort of tinder, called amadou, which is made of a species of fungus well beaten, steeped in a solution of nitre, and then dried, is fixed; and by one rapid and violent stroke of the piston, this bit of tinder is in general ignited. Desmartiers has shewn that atmospheric air, or oxygen gas, are the only fluids with which condensation produces this effect. M. Biot, by condensation, effected the combination of oxygen and hydrogen gases, having compresed them violently by the piston of an air-gun. The heat evolved added so greatly to the expansive force of the gases, that, in two out of three experiments, the barrel was burst by the explosion.

That *friction* will evolve heat is well known, even among savage nations, who frequently kindle their fires by rubbing two pieces of dry wood smartly together. The wheels of carts and coaches, when not properly greased, will frequently take fire from the friction between the nave and axletree. In what manner then is caloric evolved or accumulated in these cases? Count Rumford instituted a series of most interesting experiments, to ascertain the cause of this phenomenon: in a work like this it would take up too much space to detail his various experiments, but the results may be briefly mentioned.

He found that the heat evolved by friction was not produced by increasing the density of the bodies rubbed against each other, as happens in cases of percussion; for heat is produced by rubbing soft bodies together, as any one may experience by rubbing his hand smartly against any woollen substance. Nor is it owing to the specific heat of the rubbed bodies decreasing, for the Count found that there was no sensible decrease; nor, if there were a decrease, would it be sufficient to account for the vast quantity of heat which is sometimes produced by friction. Neither is it owing to, or connected with, the decomposition of oxygen gas, for precisely the same results ensued when the apparatus was enclosed under an exhausted receiver, and also when buried in water.

In this last experiment, Count Rumford contrived to enclose a metal cylinder, bored to admit a blunt steel borer, in a wooden box filled with water, so as to effectually exclude all air. The borer was made to press upon the bottom of the cylinder with a weight equal to about 10,000 pounds avoirdupois, and the cylinder to revolve at the rate of thirty-two times in a minute. The quantity of water amounted to 18.77 pounds avoirdupois, and, at the beginning of the experiment, was at the temperature of 60°. After the cylinder had revolved for an hour, the temperature of the water was 107°; in thirty minutes more it arose to 178°; and in two hours and thirty

minutes from the commencement of the experiment, the water actually *boiled*.

M. Haldot repeated the experiments of Count Rumford, and obtained the same results. He found that different metals gave different degrees of heat; zinc evolved the greatest degree of heat, then brass and lead, and afterwards tin, which only produced $\frac{1}{8}$ of the heat evolved during the friction of lead. By quadrupling the pressure, the heat evolved was seven times greater than before. When the rubber was rough, it produced but half as much heat as when smooth. When the apparatus was surrounded by bad conductors of heat, or by non-conductors of electricity, the quantity of heat evolved was diminished. Mr. Wedgwood found, that by pressing a piece of window-glass against a revolving wheel of grit, the glass became red-hot at the point of friction, and gave off sparks capable of igniting gunpowder. Sir H. Davy contrived to melt ice by friction, within an atmosphere which was not suffered to rise above the temperature of 32° of Fahrenheit.

The most obvious properties of caloric are *radiation, reflection, absorption.*

Radiation may be defined to be the free motion of heat; that is, those philosophers who suppose caloric to be an existent material fluid, suppose that the particles of which this fluid is composed, are endued with a vast idio-repulsive force, and that they move in right lines with unmeasured velocity in appropriate media, wherein no resistance is opposed to them.

The earliest experiments usually cited upon this subject, are those of Mariotte. He states that "the heat of a fire reflected by a burning mirror is sensible in its focus; but if a glass screen is interposed between the mirror and the focus, the heat is no longer sensible." Scheele is the first who made use of the term radiant heat, and shewed that it did not communicate warmth to the air through which it was made to pass. He proved also, that its passage through a space filled with air, was not changed in direction by a current in that air, and that its intensity was not diminished by violent agitation taking place in the air. By the interposition of a pane of glass between the fire and his hand, he found the heat was intercepted, though the light was transmitted, and might afterwards be concentrated to a focus by a lens. He states that a glass mirror reflects the light of a fire, but not the heat; that a polished metallic surface reflects both the light and the heat. The metallic reflector, therefore, may be opposed to the fire, and held in the hand with safety; but by blackening its surface, the reflecting power was destroyed, and in four minutes it became too hot to hold: thus shewing that the calorific rays proceeding from a common fire, follow, in some measure, the same law with those proceeding from the sun.

From the experiments of Herschell, it would, however, appear, that the calorific rays which accompany the solar light, and those which issue from heated bodies, though similar in some points, have some dissimilarity; for the former pass through transparent media with much greater ease than the latter. On exposing two thermometers of equal sensibility, the one covered with glass, the other uncovered, first to the solar rays, and afterwards to those of a candle, he found that a greater proportion of calorific rays were intercepted in the latter case than in the former.

The experiments of Saussure and Pictet seem to prove that the calorific rays exist independently of the luminous ones; that they proceed in right lines from heated bodies; and that they are capable of *reflection* from polished metallic substances. These gentlemen placed two concave mirrors of polished tin, each a foot in diameter, at a distance of twelve feet apart; the focal length of the mirrors was four and a half inches each. In the focus of one was the bulb of a thermometer, and in the focus of the other they placed a ball of iron two inches in diameter, which was first heated red, and then suffered to cool until it ceased to be visible in the dark. Another thermometer was placed at the same distance from the heated ball as the former one, but without the focus of the reflecting mirror. Upon the introduction of the heated ball to its place, the thermometer instantly rose, and in six minutes indicated an increase of temperature of 10°.5 of Reaumur, while that not in the focus advanced only 2°.5. Here the two thermometers, being at equal distances, may be supposed to have been equally affected by the *direct* rays from the hot ball; but the one in the focus of the mirror received in addition the reflected rays, and of course rose much higher.

To prove that the calorific rays exist independently of the luminous ones, and that they can only proceed in right lines, M. Pictet made use of a lighted candle in place of the heated ball. The candle was put in one focus; and when it had raised the thermometer in the opposite focus from 2° to 12°, a plate of glass was interposed, and in nine minutes the thermometer fell to 5°.7, and rose again on the removal of the glass. Here was an instance of a trans-

parent body, which freely admitted the rays of light to pass through it, stopping the calorific rays; but that caloric was not entirely intercepted, is evident from the circumstance of the thermometer not falling below 5°.7. Another proof that the calorific rays exist independently of the luminous ones is, that the same results took place when a flask of boiling water was used instead of the candle. When a concave mirror of glass was substituted in place of the metallic reflector, little effect was produced upon the thermometer; thus proving the inferiority of glass as a reflector of heat.

M. Pictet endeavoured to ascertain the velocity with which the calorific rays moved, and for this purpose he placed the reflectors at a distance of sixty-nine feet from each other, having in the one focus a heated ball, and in the other a delicate air thermometer. A cloth screen was interposed between the reflectors, upon the removal of which the rise of the thermometer was instantaneous; so that, within this distance, no perceptible interval elapsed between the passage of the calorific rays from one point to the other.

Absorption, as applied to caloric, implies that power which substances possess, of retaining the heating rays which impinge upon them, and thereby of acquiring an elevation of temperature. The absorptive powers of substances are very different, and may be roughly said to vary directly as the power of radiation. As far as the calorific effect of the sun-beam is concerned, it has been shewn, that the power of the absorbent body greatly depends upon its colour.

Mr. Powell, who has written several papers on the nature of caloric in the Philosophical Transactions, has thus stated his views on the subject.

1. "That part of the heating effect of a luminous hot body, which is capable of being transmitted in the way of direct radiation through glass, affects bodies in proportion to their *darkness of colour*, without reference to the texture of their surfaces.

2. "That which is intercepted produces a greater effect in proportion to the *absorptive nature or texture* of the surface, without respect to colour. These two characteristics are those which distinguish simple radiant heat at all intensities.

"Thus, when a body is heated at lower temperatures, it gives off only radiant heat, stopped entirely by the most transparent glass, and acting more on an absorptive white surface than on a smooth black one.

"At higher temperatures the body still continues to give out radiant heat, possessing exactly the same characters. But at a certain point it begins to give out light: precisely at this point, it begins also to exercise another heating power, distinct from the former; a power which is capable of passing directly through transparent screens, and which acts more upon a smooth black surface than on an absorptive white one."

It seems to be the general tendency of caloric, to become so diffused among matter of every kind, as to produce uniformity of temperature. That bodies differ greatly in the facility with which they permit the motion of caloric, or transmit its effects, is matter of daily observation. The transmission of caloric in free space, or through aeriform fluids, seems to be instantaneous, but in solids and liquids the case is very different. It may be stated as a general fact, that the conducting power of any body is in proportion to its density; thus, metals are better conductors than glass, glass than wood, and wood than feathers, wool, and other light substances, &c. The bad conducting power of these latter bodies, depends upon the quantity of air enclosed within their interstices, and the force of attraction by which this air is confined. If their imperfect conducting power depended on the difficulty with which caloric passes through their solid matter, the relative degree of that power would be as to the quantity of that matter. The reverse, however, is the case. Thus, the reason is evident, why wool, down, furs, &c. form such warm articles of clothing; because, in the ordinary state in which they are employed, the effect of their own bad-conducting property, and that of the air retained in their interstices, prevents the abstraction of caloric from the body. From its porous nature, snow is a very bad conductor, and thus forms an admirable mantle for the protection of vegetables from the more intense cold of winter.

As liquids are very easily heated, it may at first sight appear that their conducting power is considerable. The very opposite is, however, the true state of the case. The mobility of their particles is the chief cause of their power of transmitting heat, as may be seen from attending to the manner in which caloric acts upon them. If heat be applied to the lowest surface of any vessel containing a liquid, the first effect produced will be the expansion of the particles immediately in contact, by which their specific gravity being diminished, they will ascend through the mass of fluid, and a fresh stratum of particles will descend to occupy their place. By a repetition of this process, the whole body of fluid soon becomes heated. But if heat be applied to the upper

surface of a liquid, no such effect can take place; the heated and lighter particles continue at the surface; and the caloric, if it proceed downwards at all, will do so very slowly, and must do so on the principle of absorption.

Count Rumford exemplified this *carrying* power of liquids by a very pleasing experiment. He made a solution of potash and water of the same specific gravity with amber; then strewing in it some roughly powdered amber, he enclosed the whole in a proper glass vessel, and, after exposing it to a considerable heat, placed it in a window to cool. As the sun shone upon the vessel, it illuminated the particles of amber, and the whole liquid was seen to be in most rapid motion, running swiftly in opposite directions, upwards and downwards at the same time. The *ascending* current occupied the axis, the *descending* current the sides of the vessel. When the sides of the vessel were cooled by means of ice, the velocity of both currents was accelerated. It diminished as the liquid cooled; and when it had acquired the temperature of the room, the motion ceased altogether. These currents were evidently produced by the particles of the liquid going individually to the sides of the vessel, and giving out their caloric. The moment they did so, their specific gravity being increased, they fell to the bottom, and of course pushed up the warmer part of the fluid, and so on in continuity. Count Rumford likewise found, that, by mixing a small quantity of starch with the water, so as to diminish the fluidity, it took nearly double the time to reach a certain temperature, that it did when pure water was used. Eider down was likewise mixed with water, which could only tend to embarrass the motion of the particles, and a rather more powerful effect was speedily produced.

It is principally by the agency of fluids, elastic and non-elastic, that the distribution of caloric over the globe is regulated, and great inequalities of temperature are guarded against; and this agency is exerted chiefly by the circulation of which their mobility renders them susceptible.

Thus, the atmosphere, with which the earth is surrounded, serves the important purpose of moderating the extremes of temperature in every climate. When the earth is heated by the sun's rays, the stratum of air reposing on it receives part of its caloric, is rarefied, and ascends. At the same time, from a law which attends the rarefaction of elastic fluids, that they become capable of containing a greater quantity of caloric at a given temperature, as they become more rare; this heated air, though its temperature falls as it ascends, retains the greater part of its heat; its place at the surface is supplied by colder air, pressing in from every side; and by this constant succession, the heat is moderated, that would otherwise become intense. The heated air is, by the pressure of the constantly ascending portions, forced towards a colder climate; as it descends to supply the equilibrium, it gives out the heat it had received, and this serves to moderate the extremes of cold. There thus flows a current from the poles towards the equator, at the surface of the earth, and another superior current from the equator to the poles; and though the directions of these are variously changed, by irregularities in the earth's surface, they can never be interrupted, but, produced by general causes, must always operate, and preserve, with greater uniformity, the temperature of the globe.

Water is not less useful in this respect in the economy of nature. When a current of cold air passes over the surface of a large collection of water, it receives from it a quantity of caloric; the specific gravity of the water is increased, and the cooled portion sinks. Its descent forces up a portion of warmer water to the surface, which again communicates a quantity of caloric to the air passing over it; and this process may be continued for a considerable time, proportioned to the depth of the water. If this is not very considerable, the whole is at length cooled to 40°, below which, the specific gravity not increasing, the circulation ceases, and the surface is at length so far cooled as to be covered with a coat of ice.

The quantity of caloric afforded by water is exceedingly great. Count Rumford says, "the heat given off to the air by each superficial foot of water, in cooling one degree, is sufficient to heat an incumbent stratum of air forty-four times as thick as the depth of the water, ten degrees. Hence, we see how very powerfully the water of the ocean, which is never frozen over except in very high latitudes, must contribute to warm the cold air which flows in from the polar regions." From this cause, currents must exist in the ocean similar to those formed in the atmosphere. The water, which in the colder regions is cooled at the surface, descends, and, spreading on the bottom of the sea, flows towards the equator, which must produce a current at the surface in the opposite direction; and thus the ocean may be useful in moderating the excessive heats of the torrid zone, as well as in obviating the intense cold of the polar climates.

ON THE CONIC PROJECTION OF THE SPHERE.

Of the several methods of projecting the surface of the earth, or of a sphere, on a plane, the globular is most esteemed, as giving the most faithful and correct representation of its surface, exhibiting it with equidistant meridians and parallels; it is, therefore, preferable to the other methods, because the different countries, &c. are represented more proportional to their dimensions as they stand on the globe.

If, however, a cone be inscribed in a hemisphere, and the various circles, lines, &c. as also the different continents and islands on its surface, be transferred to the convex surface of the cone; this will be a nearer approximation to the surface of a sphere than the globular projection, or than any other projection on a plane surface. Two such cones, so placed that their bases may coincide with the equator, and their axes with the axes of the sphere, will represent the whole surface of the earth, or the northern and southern hemisphere.

If the surfaces of each of these cones be unwound, they will present two plane surfaces, or great segments of circles, whose semidiameters are the slant heights of the cones; and if they be placed so that the chords of the arcs may coincide, the four sides of the sectors, or semidiameters of the circles, will form a rhombus, or diamond square, in the middle of the figure, in which the name of the map or other particulars may be written.

Such a map may be constructed as follows:

To find the length of the arc of the sectors; suppose the diameter of the circle to be 1, then the slant height of the cone will be .5, hence, by Euclid, 47th P. of B. I $\sqrt{\frac{.5}{2}} = .353$ is the semidiameter of the base of the cone, and $.353 \times 2 \times 3.1416 = 2.217$ the length of the arc: now as 3.1416 : 360° :: 2.217 : 254° „ 9′½ = length of the arc in degrees, and 360° — 254° „ 9′½ = 105′ „ 50′½ the length of the deficient arc. Therefore, with any radius draw a circle, cut off from the proper side of it 105° „ 50′½, next draw the two radii or sides of the sector; then, with the length of the radius from the points of section, describe arcs intersecting one another on the outside of the sectors; from the points where they intersect, circumscribe the arc of the other sector, meeting, or cutting the former; and then finish the rhombus, by drawing the sides of the sector.

Divide each of the arcs into 360 degrees for the longitude, and at proper distances draw straight lines from the centre to the circumference, for meridian lines. The degrees of latitude must be marked on the sides of the rhombus; but as they are not of equal length, the points of division may be found as follows:—make the sides of the rhombus, chords of the arcs of quadrants, divide each of the arcs into 90 degrees, and through the points of division, to the vertex of each quadrant, draw straight lines, and the points where they cut the chords or sides of the rhombus, are the points of division for the degrees of latitude.

These divisions may be found arithmetically as follows:—there are given the base of a triangle, or radius of the quadrant, and both the angles at the base, and, therefore, that at the vertex, to find one of the sides, one angle at the base being the given latitude, and the other always 45°; hence, the sine of the angle at the vertex, is to the base or radius, as the sine of the latitude is to the required side or part of the chord corresponding to the given latitude. When the divisions of the latitude are found, arcs must be drawn through them, parallel to the equator, for the parallels of latitude, at proper distances from each other.

Thus much for maps of the world; but for maps of any part of the earth's surface, either in the northern or southern hemisphere:—in order to obtain the nearest approximation to the surface of a sphere, the surface of the spherical zone, lying in the latitude of the map, should be transferred to the surface of the frustrum of a cone, the semidiameters of whose greater and lesser bases, are the cosines of the latitudes of the bottom and top of the map. Let S,s, be the sines of the latitudes of the top and bottom of the map, and c, C, their cosines; then $\sqrt{\overline{C-c}^2 + \overline{S-s}^2} =$ the slant height of the frustrum, and by sine Δs, as $C-c : \sqrt{\overline{C-c}^2 + \overline{S-s}^2} :: C : \frac{C}{C-c} \times \sqrt{\overline{C-c}^2 + \overline{S-s}^2} =$ the slant height of the whole cone or radius of the greatest parallel of latitude, whose length is 3.1416 × 2 C, a proportional part of which must be taken for the width of the map. The divisions of the degrees of latitude may be found by the former trigonometrical analogy, observing that the given base, or side of the triangle, is equal to the radius of the sphere, in the zone of which the frustrum of the cone was supposed to be inscribed, and one of the angles at the base being the difference of the latitude of the bottom of the map, and the given latitude whose distance

is sought, and the other angle at the base is the given latitude, together with the angle whose sine is proportional to S—s. Or the divisions may be found geometrically with great ease.

Maps constructed in the above method will represent the different countries, &c. more proportional to their size; therefore, greater measurements may be performed with more correctness: and if celestial maps were thus constructed, they would, when properly bent, have the property of discovering the stars.

THOMAS COOKE.

Draycott, near Derby.

A SIMPLE BAROMETER.

MR. EDITOR, SIR,

OBSERVING in your excellent periodical, vol. 3d, col. 830, an account of the leech being used as a barometer, I would beg leave to state, with due deference to your correspondent's observations, that it should be the *horse-leech* found in ponds or stagnant pools, instead of that used for medical purposes, the one being much stronger than the other, and more susceptible of acute feeling under the different changes of the atmosphere. But although it may be amusing to observe how the animal is affected by the weather, for my own part I have never found that degree of certainty attached to it which I could have wished. The most simple, cheap, and correct barometer, applicable to any useful purpose, is the following:—

Take a common phial bottle; cut off the rim and part of the neck. This may be done by a piece of string, or rather whip-cord, twisted round it, and pulled strongly by two persons in a sawing position, one of whom holds the bottle firmly in his left hand. Heated in a few minutes by the friction of the string, and then dipped suddenly into cold water, the bottle will be decapitated more easily than by any other means. Let the phial be now nearly filled with pump water; applying the finger to the mouth, turn it quickly upside-down; on removing the finger, it will be found that only a few drops escape. Without cork or stopper of any kind, the water will be retained within the bottle by the pressure of the external air, the weight of air without the phial being so much greater than the small quantity within it. Now, let a piece of tape be tied round the middle of the bottle, to which the two ends of a string may be attached, so as to form a loop to hang it on a nail. Let it be thus suspended in a perpendicular manner, with the mouth open downwards, and this is the barometer.

When the weather is fair, and inclined to to be so, the water will be level with the section of the neck, or rather elevated above it, forming a beautiful concave surface—when disposed to be wet, a drop will appear at the mouth, which will enlarge till it fall, and then another drop, while the humidity of the atmosphere continues. The degree of certainty in this instrument may be relied upon, as I have used it for many years, and never found it fail in indicating the same change of weather with the common barometer. F. H.

Leadenhall Street March 14, 1831.

ORIGIN OF THE ENGLISH LANGUAGE.

FROM the Anglo-Saxons we derive the names of the most ancient officers among us—of the greater part of the divisions of the kingdom, and of almost all our towns and villages. From them we derive our language; of which the structure, and a majority of its words, much greater than those who have not thought on the subject would at first easily believe, are Saxon.

Of sixty-nine words, which make up the Lord's Prayer, there are only five not Saxon; the best example of the natural bent of our language, and of the words apt to be chosen by those who speak and write it without design. Of eighty-one words in the soliloquy of Hamlet, thirteen only are of Latin origin. Even in a passage of ninety words in Milton, whose diction is more learned than that of any other poet, there are only sixteen Latin words. In four verses of the authorized version of Genesis, which contain about a hundred and thirty words, there are no more than five Latin. In seventy-nine words of Addison, whose perfect taste preserved him from a pedantic or constrained preference for any portion of the language, we find only fifteen Latin. In later times the language has rebelled against the bad taste of those otherwise vigorous writers, who, instead of ennobling their style like Milton, by the position and combination of words, have tried to raise it by unusual and far-fetched expressions. Dr. Johnson himself, from whose corruptions English style is only recovering, in eighty-seven words of his fine parallel between Dryden and Pope, has found means to introduce no more than twenty-one of Latin derivation.—The language of familiar intercourse, the terms of jest and pleasantry, and those of necessary business, the idioms or peculiar phrases into which words naturally run, the proverbs, which are the condensed and pointed sense

of the people, the particles, on which our Syntax depends, and which are of perpetual recurrence;—all these foundations of a language are more decisive proofs of the Saxon origin of ours, than even the great majority of Saxon words in writing, and the still greater majority in speaking.

In all cases where we have preserved a whole family of words, the superior significancy of a Saxon over a Latin term is most remarkable. "Well-being arises from well-doing," is a Saxon phrase, which may be thus rendered into the Latin part of the language:—"Felicity attends virtue;" but how inferior in force is the latter! In the Saxon phrase, the parts or roots of words being significant in our language, and familiar to our eyes and ears, throw their whole meaning into the compounds and derivations, while the Latin words of the same import, having their roots and elements in a foreign language, carry only a conventional signification to an English ear. It must not be a subject of wonder that language should have any closer connexion with the thoughts and feelings which it denotes, than our philosophy can always explain. As words convey these elements of the character of each particular mind, so the structure and idioms of a language, those properties of which, being known to us only by their effect, we are obliged to call its spirit and genius, seem to represent the character or assemblage of quality which distinguish one people from others.—*Lardner's Cabinet Cyclopedia.*

ANNIVERSARIES OF BENEVOLENT INSTITUTIONS IN THE METROPOLIS.

When the tide of benevolence first began to flow, many persons who watched its progress, hesitated not to predict that it was nothing more than a momentary effervescence, which would speedily expend its energy, and subside. Time, however, has proved, that false prophets may exist, without taking shelter under the sanction of religion. Instead of diminishing, these societies increase in number; instead of having expended their energies, they acquire renewed vigour; instead of contracting their spheres of operation, they occupy a wider field, embrace new objects, and every year their supporters become more numerous.

Amounting in their varied forms to about one hundred, we must content ourselves with noticing some of the principal; for beyond this, our limits will not allow us to pass. To such of our readers, however, as wish to obtain an extended outline of the speeches delivered at these anniversaries, we recommend the Christian Advocate Newspaper, as containing a faithful report of the transactions and sentiments which it records. The first in order that comes under our notice is the

ANTI-SLAVERY SOCIETY.

The anniversary of this truly benevolent institution was held at Exeter Hall, (a large and commodious room lately opened in the Strand, near Waterloo Bridge,) on Saturday, April 23. On this occasion his Royal Highness the Duke of Gloucester was expected to take the chair, but having been prevented through indisposition, Lord Suffield was called on to fill his place. His Lordship's address was manly, animated, and unequivocal. It breathed hostility to slavery in all its forms, and from the inhumanities inseparable from the system, still practised in our colonies, his Lordship argued the necessity of a total abolition.

T. Fowel Buxton, Esq., M. P. drew a frightful picture of this colonial monster, establishing his general view by an appeal to facts, some of which consign to the gibbet of infamy a clergyman of Jamaica, named Brydges, for his inhumanity towards one of his slaves. This detestable system, he asserted, has within a few years destroyed no less than forty-five thousand human beings.

Sir James Mackintosh argued forcibly on the necessity of a total abolition. Little had yet been done; but from the new Parliament, about to be returned, much might be expected.

Dr. Lushington avowed himself to be an advocate for the *immediate* and *entire* emancipation of West India slaves. Of every candidate soliciting to be returned to Parliament, he recommended that each voter should ask the question—do you abhor slavery? will you vote for its extermination?" and unless his answer was prompt and unequivocal, to vote against him.

The Rev. Daniel Wilson was an enemy to slavery on religious grounds, and was resolved to co-operate in any measures that should tend to annihilate the horrid system.

Daniel O'Connell, Esq. M. P. declared himself the mortal foe of slavery, abhorring it in all colours, creeds, and climes. He asserted, that in fourteen colonies, during only ten years, there had been a decrease in population of forty-five thousand eight hundred and one. Every day ten human beings are despatched by slavery. It could be borne no longer, and he was resolved

to divide the House of Commons on the motion, that *every negro child born after the first of January*, 1832, *shall be free.*

Mr. Shiel, in his delineation of slavery, adverted to the case of a female slave-holder, who, to inflict acuter torture on the victim of her cruelty, rubbed pepper in the eyes of a female slave. Mr. Canning's propositions in 1823 had been disregarded, and from the colonial powers nothing but interminable slavery was to be expected. The shriek of the agonized negro had been heard across the Atlantic; and the time was at hand, when the slave must be emancipated from his chains.

Mr. Pownal adverted to the artifice that had been practised upon the people by the promises of 1823, and warned them to beware of a similar deception. No rest should be sought until slavery had received its death-wound, and nothing could ensure this, but the fixing of some specific time, after which, children should cease to be born slaves in our colonies.

The Rev. John Burnet surveyed slavery, as mentioned in the Bible, and argued that between this, and West Indian servitude, scarcely any resemblance can be traced. The British lion was asleep when slavery started into existence under the sanction of legislative authority, but, roused by the clanking of the chains which the victims of oppression wear, the hydra now trembles before him, and, awed with more than common presages, anticipates its fate.

The Rev. Richard Watson could see no ground for hope from colonial legislation. Even Christianity, which was recommended to prepare the slaves for emancipation, was obstructed in its diffusion. Religion could not make good slaves; it would make good servants; but, enlarging their views, through which they might perceive the relative duties of life, it would beget a love of freedom, and forbid the slave to kiss his chain. A Christian father will not bear to see his children taken from him, as a heathen would, nor to see his daughter subdued by means of the whip, that she might be violated. We must aim to get a definite period fixed; till that be done, all else will be in vain, and even pernicious.

At this anniversary, probably about six thousand were present, and all appeared to be actuated by one common feeling and spirit in favour of Negro freedom. For this desirable event, the present period is peculiarly auspicious. The Parliament about to assemble will meet under the impression, that to remove long-existing evils, something decisive must be done; and to such a Parliament, petitions for negro emancipation cannot be presented in vain.

FRIENDS OF THE HEBREW NATION.

The second anniversary of this Society was held in Exeter Hall, on Thursday, the 28th of April, Henry Drummond, Esq. in the chair, when a crowded assembly evinced, by the most ardent attention, their rising interest in the cause of afflicted Israel.

The chairman stated, among other interesting things, that some time back a letter was received from the Committee of the Cambridge Auxiliary Branch Society, by the Committee in London, stating a report prevalent there, that it was intended by the London Committee to establish a New Hebrew Church, with a Liturgy founded upon the Hebrew ritual, and also on that of the Church of England. In order to answer this letter, the question was put in the London Committee, and a direct negative being given thereto, the result was transmitted to the Committee in Cambridge. To these proceedings, the then superintendant of the Hebrew Institution was privy; no circumstance pertaining thereto having been withheld from him.

The Secretary read the report, which stated, among many other matters connected with the Society, that twelve Jews, then inmates of the Hebrew Institution, had been baptized by the Lord Bishop of London, in the year 1830, and seven others, under his orders, by the Rev. T. J. Judkin, M. A. early in the present year; making, in the whole, nineteen, who, through the instrumentality of this Society, had received baptism, in the name of the Father, of the Son, and of the Holy Ghost. That, in the month of February last, the inmates of the Hebrew Institution, without the knowledge of the Committee of management, elected, from amongst themselves, a bishop, elders, deacons, &c. &c. constituting what they denominated "The Apostolic Hebrew Church;" and that the superintendant wrote to the Lord Bishop of London a most unceremonious letter, containing an account of these proceedings. On these circumstances coming to the knowledge of the Committee, an inquiry was instituted, and it being found that the friends of the Hebrew nation never contemplated the establishment of such a church, when they founded the Hebrew Institution, that they had stated their determination to the contrary, in their answer to the Cambridge Committee, and that, as the rules of the Institution did not embrace any such church, they could not give their licence for the exercise of the functions of

a bishop, elders, deacons, &c. within the premises appropriated to the use of the Hebrew Institution. On this being intimated to the Apostolic Hebrew Church, the Superintendant of the Institution resigned his office; and, with him, the members of this Church formed a determination to remove to a situation about to be taken for their reception, in or near Kensington; to which situation, after many painful meetings with the Committee, at their own time, they removed; leaving in the Institution eleven, and taking with them twelve, Hebrews. Whether the Apostolic Hebrew Church is or is not of God, the Committee did not feel themselves called upon, nor did they presume, to determine.

During this anniversary of the Society, this painful subject was introduced anew, and a discussion of some length ensued; which, however, terminated decidedly in the negative; a few hands only being held up in favour of the parties who introduced the subject. The harmony of the meeting was then resumed; and with one consent the Society determined, by divine aid, to persevere in their original plan, through good report and evil report, through honour or dishonour; keeping only in view the glory of God and the good of the Hebrew nation. Encouraged by past success, by the present harmony subsisting in the Hebrew Institution, and by the cheering prospects of future usefulness, one mind seemed to pervade the whole Society; namely, a feeling of gratitude to Jehovah for His manifested favour, and of confidence in Him for renewed displays of His mercy and grace to Israel.

Taking into their consideration, that the Hebrew Institution was only to inquiring Hebrews, and that many of the sons of Abraham, who had put on the Lord Jesus Christ, under the sanctifying influences of the Holy Ghost, and had testified their faith in Him, in baptism, and by an open profession of His name, were equally destitute of the comforts this world affords, with their junior brethren, who found an asylum there, the Society determined to unite with others, the friends of Israel, in rearing up an asylum for these also. In this new Hebrew Institution, the inmates will he taught useful trades, in a manner similar to the elder institution, in the exercise of which they will be enabled, on quitting the same, to provide things honest in the sight of all men. To these Institutions, may Jehovah, in the plenitude of His mercy and love, grant His blessing.

W. COLDWELL.

King Square, May, 1831.

IRISH SOCIETY, IN LONDON, FOR EDUCATING AND INSTRUCTING THE NATIVE IRISH IN THEIR OWN LANGUAGE.

The Anniversary of this Institution was held in Exeter Hall, on Friday, April 29, the Lord Bishop of Lichfield and Coventry in the chair. The object of this society is, to extend the Gospel, as taught by the established Protestant church, among the benighted Irish, in their native tongue. It appeared from the report, that, in consequence of papal persecution, the schools established by this Society had been diminished, and that the number of pupils was less than during the preceding year. The demand, however, for books had increased, and many thousand copies of suitable publications had been put into circulation. In various parts of England, about forty auxiliary societies had been formed for the same benevolent purpose, and £150 had been transmitted to the parent institution in Dublin, to promote this excellent cause.

WESLEYAN MISSIONARY SOCIETY.

The anniversary of this well-known society was held in Exeter Hall, on Monday, May 2d, Launcelot Haslope, Esq. in the chair.

It appeared from the report, that during the preceding year five missionaries had died; that the stations were 150; the number of missionaries 213, catechists, who were paid, 160; gratuitous teachers, 1,400, in the Sunday and other schools, making a total number of above 2,000 agents actively employed in spreading the Redeemer's kingdom, and giving diffusion to useful knowledge. The members in society on foreign stations, not including Ireland, amount to 41,186, of whom 24,439 are slaves. The aggregate of contributions throughout the year, was stated to be £50,017. 18s. 8d.

On this occasion, the assembly was addressed by the Rev. Mr. Alder, from Sheffield, James Montgomery, Esq. J. Poynder, Esq. Rev. James Dixon, Rev Dr. Burder, Rev. Dr. Raffles, of Liverpool, Rev. John Burnet, of Camberwell, Rev. Robert Newton, Rev. Richard Watson, Peter Jones, an Indian chief, and several others. The speeches delivered by the above gentlemen were luminous, animated, and appropriate. The large hall was crowded with highly respectable and attentive hearers, and the utmost harmony prevailed.

Among the speakers at this anniversary, no one excited so much attention as Peter Jones, the converted Indian chief. He spoke good English, and his speech was rendered remarkably interesting by the piety,

humility, and simplicity with which his sentiments were delivered. The peculiarity of his character and condition in life, and occasionally the singularity of his phraseology, made a powerful impression in his favour. He frequently designated the Almighty the "Great Spirit, the light of whose good word had visited him and his tribe in the wilds of North America," and bore a luminous testimony to the influence of the gospel on his heart.

CHURCH MISSIONARY SOCIETY.

This annual meeting took place at Exeter Hall, on Tuesday May 3d. Lord Gambier was called to the chair.

It appeared from the report, that the donations and subscriptions for the year amounted to £45,584, and that on the whole the prospects of the Society were cheering.

The chief speakers were the Bishop of Lichfield and Coventry, the Hon. and Rev. Baptist Noel, the Rev. Mr. Wilkes, the Rev. Mr. Woodroffe, the Rev. Daniel Wilson, H. Pownell, Esq. the Rev. W. Marsh, the Bishop of Winchester, Lord Bexley, the Bishop of Chester, the Rev. E. Bickersteth, and the Rev. J. H. Steward.

During the addresses of the above gentlemen, an awful picture was drawn of the heathen world. Slavery, with its concomitant atrocities, was also introduced; and several instances were given of the grossest tyranny, injustice, and inhumanity, inflicted on its victims. From these gloomy delineations the imperious necessity was inferred, of continued and increased exertions, to send the light of the gospel into the benighted regions of the earth.

CHRISTIAN INSTRUCTION SOCIETY.

The anniversary of this Society was held on Tuesday, May 3d, in Finsbury chapel, Moorfields, Thomas Wilson, Esq. in the chair. The design of the benevolent members of this Institution is, to visit the dark and miserable districts of the metropolis, to administer relief in cases of distress, to give advice and instruction by the distribution of tracts and placards, and to establish and support preaching in tents, or in the open air.

The report stated, that during the year 31,500 families had been visited, and 1,263 cases of distress had been relieved. The meeting was addressed by the Rev. Dr. Burder, the Rev. John Burnet, the Rev. Dr. Cox, the Rev. Dr. Bennett, the Rev. Alexander Fletcher, and the Rev. J. Campbell. All these advocated the necessity of out-door preaching, urging, that if the people would not seek them, it was their duty to seek the people; and the conduct of Whitfield and Wesley was adduced as an example worthy of imitation.

A benevolent lady, it was stated, had placed the sum of £200 in the hands of the treasurer; a gentleman of York had remitted a fourth donation of £50; and the chairman presented £25, in aid of this truly Christian cause.

BRITISH AND FOREIGN BIBLE SOCIETY.

On Wednesday, May 4th, the anniversary of this grand national association took place in Exeter Hall. Lord Teignmouth was expected to preside, but a letter announcing his inability to attend, placed Lord Bexley in the chair.

The report stated, that during the preceding year, 173,547 Bibles, and 297,382 Testaments, had been distributed, making a total of 470,929 copies, being 36,507 more than on the previous year. The amount of money received by the Society was £95,424, being about £10,441 more than the previous year had produced. The expenditure of the society was about £83,002, and its engagements £45,800. The auxiliary and branch societies had continued their exertions, and 164 new associations were added to those already existing.

The principal speakers at this anniversary were, the Rev. Andrew Brandram, the Rev. Dr. Dealtry, Captain Gordon, the Rev. Rowland Hill, the Rev. Lundy Foote, the Rev. John Burnet, Sir Lancelot Shadwell, the Hon. and Rev. Baptist Noel, the Rev. Washington Philips, Mr. Luke Howard, Mr. Hughes Hughes, M. P. Lord Lifford, and Henry Drummond, Esq.

When Captain Gordon began his address, it was obvious that he intended to introduce alterations calculated to subvert the fundamental principles of the Society. The purport of his arguments was, that the Bible Society was a Christian institution; but that Arians and Socinians were not Christians, and that they should therefore be excluded. His propositions, however, were so far from being pleasing to the assembly at large, that innumerable voices were lifted against him, and the utmost confusion prevailed. Several times he was called to order, but nothing could deter him from persevering; and even at last he was compelled to desist by the incessant clamour which his indiscretion had raised. One or two among the speakers appeared to approve his proceedings, but the greater part were

decidedly hostile to the projected innovation; and when the question was put, the public shew of hands brought against him an overwhelming majority. The point thus agitated, not only destroyed the harmony of the meeting, but the subordinate branches which it involved engrossed nearly all the time, at once creating great disappointment, and exciting much unpleasant feeling.

BOOK SOCIETY FOR PROMOTING RELIGIOUS KNOWLEDGE AMONG THE POOR.

On Friday, May 6th, the eighty-first anniversary of this Society was held in the lower room, Exeter Hall, the Rev. Rowland Hill in the chair.

The object of this institution is, to impart religious knowledge to the poor by means of books. It appeared from the report, that during the past year 200,000 of the Society's books had been put into circulation, and that from its commencement 212,000 Bibles and Testaments, and about a million of its various publications had been distributed by this Society. This meeting was addressed by the Rev. T. Timson, the Rev. Mr. Saville, the Rev. Dr. Bennett, the Rev. T. James, the Rev. Mr. Preston, the Rev. Mr. Maconnel, and the Rev. R. H. Shepherd.

PRAYER BOOK AND HOMILY SOCIETY.

At the anniversary of this Society, which was held in Exeter Hall, on the 5th of May, Lord Bexley took the chair. From the name which this institution bears, its Church of England character must be obvious to all. This circumstance will, however, neither diminish nor increase its excellence. Its object is good, and its influence has been found to be highly beneficial. Among the vessels in the port of London, 1,518 were visited during the year, and numerous copies of homilies and tracts left on board for distribution. Ireland, the Continent, and India, have also experienced the Society's exertions. The number of books distributed during the year amounted to 11,851, that of homilies and tracts 127,683: the receipts to £2,127, and the expenditure to £2,177. The meeting was addressed by the Rev. Henry Budd, the Rev. W. Marsh, the Rev. Edwin Sidney, the Rev. J. Peers, Lord Mountsandford, the Rev. Mr. Evanson, the Rev. Mr. Raikes, the Rev. Daniel Wilson, Sir Claudius Hunter, and others.

To be resumed in our next.

CELESTIAL PHENOMENA.

June 1831.

THE Sun enters the tropical sign Cancer on the 22d, at 38 minutes past 5 in the morning; his semi-diameter on the 1st is 15 minutes, 47 seconds, and 6 tenths; and on the 25th, 15 minutes, 45 seconds, and 6 tenths.

The Moon enters her last quarter on the 3d, at 20 minutes past 3 in the afternoon; she is new on the 10th, at 51 minutes past 6 in the morning; enters her first quarter on the 17th, at 59 minutes past 3 in the morning; and is full on the 25th, at 7 in the morning. She passes over the planet Jupiter on the morning of the 2nd; the immersion will take place at 8 minutes 40 seconds past 1, and the emersion at 13 minutes 51 seconds past 2: the nearest approach of centres is 5 minutes, 53 seconds, Jupiter being to the south. The satellites of Jupiter will all be visible at the time, the second and fourth to the west of the planet, the fourth being the most westerly; and the first and third to the east, the latter being the easternmost; it will be exceedingly interesting to notice their disappearance and reappearance, as the Moon successively passes them.

On the 9th, about two in the morning, the Moon passes near Mercury: she also passes near Saturn, about one in the morning of the 15th; near Herschel, about 4 in the afternoon of the 28th; and near Jupiter about 8 in the morning of the 29th. On the 9th, at 17 minutes 12 seconds past 7 in the morning, the moon is in conjunction with γ Tauri, which will prove an occultation at London. She will also eclipse Aldebaran on the same day, the conjunction taking place at 27 minutes 52 seconds past 1 in the afternoon. On the 21st, at 46 minutes 22 seconds past 9 in the evening, she is in conjunction with γ Libra, which is also attended with an occultation.

The planet Mercury arrives at his greatest elongation on the 20th. Venus is still a conspicuous object in the western hemisphere; during the evenings of this month, she is seen passing through the constellations Gemini and Cancer. On the morning of the 4th, she passes near κ Geminorum, and on the 16th, near γ Cancri. Mars is seen to the west of Venus, and passing through the same constellations: on the 30th, he is near δ Cancri.

The noble planet Jupiter is still in the constellation of the Goat. On the 11th he is stationary, near μ Capricorni. There are four visible eclipses of his satellites this month; three immersions of the first as follows; on the 3rd, at 8 minutes 45 seconds past 2 in the morning; on the 18th, at 24 minutes 49 seconds past 12 at night; and on the 26th, at 18 minutes 47 seconds past 2 in the morning: the remaining one

is an immersion of the second at 23 minutes 10 seconds past 2 in the morning of the 7th. At the commencement of the month, Saturn is seen to the west of Regulus, and γ Leonis. He passes near the former star on the 17th. The Georgian is near the same spot he occupied last month; his motion is retrograde.

POETRY.

DAVID PLAYING THE HARP BEFORE SAUL.

Triumphant banners floating in the air,
Israel's great conqueror's return declare,
Rich with the spoils of war; and in his train,
Agag, the mighty foe, with captive chain,
Through the exulting wondering crowd is led,
With execrations loud upon his head;
The song of joy through every rank extends,
One shout of triumph to the sky ascends!
With heat of conquest flushed, with glory blind
Saul is extoll'd above all human kind;
Nor heeds that eye no mortal can elude,
That arm which man nor angel e'er withstood;
The high command of heaven he disobeys,
To gain the fleeting breath of earthly praise.
But Israel's God offended, soon appears,
The Great Jehovah's thunder strikes his ears,
And quails his inmost soul; he pardon sues,
And penitential tears his eyes suffuse;
But penitence, alas! is now too late,
Rebellion, his dark sin, decides his fate;
The Spirit of the Lord from him departs,
And consolation now no more imparts;
But fiends torment where peace before had smiled,
And holy calm is changed to tempest wild.
For him the charms of nature smile in vain:
While fatness drops from heaven like gentle rain,
And milk and honey flow through all the land;
Earth's choicest treasures opening to his hand,
Like rose-buds to the full admiring eye;
And joy and laughing beauty ever nigh;
His heart's consuming with a fatal blight,
And desolate mid scenes so fair and bright!
Day has no joys for him, nor night repose;
Light falls on's weary eye, and darkness shows
No horror like the blackness of his soul!
At mirth he sickens, and the sparkling bowl
Untasted from his lips he dashes down;
Affection's gentle voice uncouth is grown;
The pomp of earthly state his pride but mocks,
And his rent kingdom like a spectre shocks
His fancy; and his tortured brain now reels
Beneath the pressure of the woe he feels!
But there were seasons when, to frenzy wrought,
He felt as if an evil spirit sought
To drive his soul to madness; then he raved,
And tore his hair, and scarcely could be saved
From self-destruction; such a mighty power
The demon had in that most fearful hour!
One time, when those around him saw his soul
Tortured beyond the reach of all control;
And anxious, thought of means that might assuage
His still increasing direful, maddening rage;
They trembling, venture to approach their Lord,
Beseeching him to listen to their word
Of faithful counsel—who so much had done
To sooth and comfort him—to send for one
Who on the harp most skilfully did play,
And peradventure charm his woes away.
With voice stentorious, and eager eye,
He them desires with all despatch to hie,
In quest of him most cunning in the art,
Who might relieve his terror-stricken heart,
From the tormentor's power his mind release,
And wake once more his troubled soul to peace!
They quick return with one of greatest fame,
The son of Jesse, David is his name:—
A youth of comely person, ruddy, fair,
Of graceful carriage, modest in his air;
And with an eye that spoke a soul of fire,
Inspired by heaven to strike the sacred lyre,
With power to harmonize the soul, and make
The tiger's nature of the lamb's partake.
Approaching now, with bended knee he falls
Before the presence of the King, who calls
Aloud, and him requests without delay,
His skill to try, and soothe his pangs away.
Bearing his own loved harp, the youth behold!
And hear him sweep the strings, now only bold;
With eyes to heaven directed, and his mind
Absorbed by tones he struck, his soul refined
To highest pitch of harmony, and his nerves
With rapture tremulous, he yet preserves
The strength of inspiration, and his face
Is beaming with the light of heavenly grace!
Although before an earthly king he kneels,
Awe only for the King of kings he feels;
His presence now he only knows, nor sees,
Nor feels aught else, and Him alone to please
Is all his aim, the burden of his song,
The language of his harp, and of his tongue!
The heart of Saul is touched, relaxed his brow;
His features settled to the calm of woe,
And his destruction wild subsides to rest:
The spring of feeling, closed within his breast,
Is opened; now the genial current flows,
And that sweet boon, the joy of grief bestows!
As on the parching earth the plenteous rain,
Descending, makes it bloom and smile again;
So, on the heart of Saul, the tender flood
Of harmony refreshed his soul; the bud
Of peace and kind returning joy appears,
And brightly glistens through the mist of tears.
At length the tide of feeling back recedes,
And reason's calm and gentle reign succeeds;
While on th' enraptured youth, with eye intent,
He gazes oft, as on an angel sent
From heaven, to make his wounded spirit whole,
And pour the balm of peace into his soul!
Affection pleads, and yearns within his heart;—
The minstrel is not suffered to depart;
David he loves, and in his court retains,
Who favour and increasing honour gains,
And oft resumes his heaven-instructed lyre,
To yield th' afflicted king his heart's desire.

Robert Styles.

Ball's Pond Road, 4th February, 1831.

THREE SONNETS,

ON THE PAINTINGS AT THE ALTAR OF BERKSFORD CHAPEL, WALWORTH.

THE ASCENSION.

Victorious Conqueror of death and hell!
Omnipotence is centred in thy name;
What mortal eloquence aright can tell,
The majesty of thine eternal fame?
Uprising on the thunder-cloud sublime;
By faith we see thee spurn the shores of time,
And gather to thyself the robes of light,
And sceptre of infinity! (thine own,
Ere the first morning chased chaotic night,)
And take thy seat on heaven's embazoned throne.
Hark! heard ye not that whelming burst of praise,
The gratulations of the sinless throng?
Archangel, seraph, saint, unite their lays,—
The mighty chorus of immortal song!

2. THE THREE MARYS, AND THE DEAD CHRIST.

Elect and holy women! unto whom
The blessing of a Saviour's grace had come,
Well might ye feel a more than mortal throe
Of agony, when looking on *His* woe.
'Tis even so! his lips are mute in death,
And cold the dews that glitter on his brow;
The eloquence of mercy stirred his breath,
But all is hushed, alas! in silence now!
Nay—gently draw aside the thorny crown;
For yet the purple stream doth trickle down

His furrowed cheek; and hide those scars,
Warm with the recent conflict on the tree.
Ere the third twilight dawns, the morning stars
Shall hymn the risen God, and angels bow the knee.

3. THE MOUNT OF TRANSFIGURATION.

Pavilion of insufferable light!
O'ercanopied with glory's sable shrouds;
Holy, sublime, irradiated height!
Edged all around with fire-emblazoned clouds!
Approach with awe!—*here* hallowed feet have trod—
And tremble in the presence of a God!
There stands "the man of sorrows:" yet, behold,
Unearthly splendours have enrobed his frame!
Listen!—what voice was that which erewhile rolled
Thro' yonder dazzling portico of flame?
It is enough! the favoured Three adore;
The man of sorrows and the God are one!
Bow! bold blasphemer! dare not question more
The Father's witness to his equal Son!

BENJAMIN GOUGH.

A RETROSPECT OF YOUTH.

Oh! bright were the days of my youth,
As they rapidly glided away:
When my heart was the mirror of truth,
And my path was illumed by her ray:
When I knew not the guile of the world,
Nor saw its enticements displayed,
The banner of hope was unfurl'd,
In brightness and beauty arrayed.

And I deem'd that this banner alone
Should ever move over my head;
That my heart should be purity's throne,
And vice should be harmless or dead.—
But the days of my manhood are come,
And the dream of my youth-time is o'er;
Disappointment and care are my doom,
And my trials are greater and more.

Oh! bright were the scenes that appear'd,
Illusive, alas! though they proved;
And gladsome the hopes that I rear'd,
Though they drooped as their soil was remov'd:
If I tasted the bitter at all,
The drop would envalue the sweet;
And pleasure was there at my call,
I fear'd not—I knew not deceit.

And I fancied the stream of my life
Would ever thus calmly flow on,
Undisturbed by the rapids of strife,
And of passion's storms, for there were none.
But the days of my manhood are come,
And the dream of my youth-time is o'er;
Life's current is whitened with foam,
And the trumpets are loud in their roar.

Then guide me, thou God of my sire;
My errors in mercy forgive:
With wisdom and virtue inspire,
In faith, hope, and love, let me live:
I, poverty ask not, nor wealth,
Lest either should lead me astray:
I ask not for sickness or health,
But, ah! for thy blessings I pray.

Sheffield. ROBERT A. WEST.

REVIEW.—*Journal of Voyages and Travels, by the Rev. Daniel Tyerman, and George Bennet, Esq, deputed, from the London Missionary Society, to visit their various stations in the South Sea Islands, China, India, &c. between the years* 1821 *and* 1829: *compiled from original documents, by James Montgomery.* 2 *Vols.* 8*vo. pp.* 586. 576. *Westley and Davis, London.* 1831.

MANY years have elapsed since our eyes were cast on a work so voluminous, and yet so very interesting in all its parts. The title-page indicates that an almost endless variety of matter is embraced, that the people, manners, and customs, to which we are about to be introduced, are diversified and strange, and that therefore a succession, or rather a continuation, of excitement may be expected. Nor have we been disappointed; our anticipations, which were of no very moderate description, have been fully gratified. We accompany the author through the vicissitudes of his voyages and travels, and in a spirit of sympathy which rarely flags, participate in his dangers, and rejoice in his escapes.

A work containing nearly twelve hundred pages, that can keep alive attention from its commencement to its termination, must be above the common order. It must not merely be intrinsically valuable in itself, but the materials of which it is composed must be of that peculiar description, which finds a mirror in every reader's mind. Such, however, is the work before us. It conducts us through distant oceans, presents us with a picture of savage life, and directs our attention to man emerging from hereditary barbarism into semi-civilization, and thence assuming the dignity of that character, which, under more favourable circumstances, he was intended to support. We pass from islands to continents, and survey tribes and nations in all the grades of character and habit, which idolatrous philosophy, superstition, and pagan rites can impose. We contemplate the human mind crouching under the mandates of despotism, and tormented with horrors arising from the realities of an undefined futurity, and then pause in astonishment at the variations through which the mental energies may be compelled to sink, or induced to rise.

In one great field of his inquiries, the author has indeed been preceded by Mr. Ellis, through whose Polynesian Researches the natives and productions of the South Sea Islands have been rendered familiar to our views. This field, however, has not been exhausted. A sufficiency of original matter remained to furnish Mr. Bennet with a plentiful harvest. In reaping and gleaning he has been both industrious and successful, and his readers will rejoice in having an opportunity of feasting on his ample stores.

The work before us is not opposed to that of Mr. Ellis, nor has it been written to act in concert with it. It takes its stand on neutral or independent ground, and confirms, by a kind of unintentional coinci-

dence, the statements already laid before the public by Mr. Ellis. Frequently, indeed, the same facts appear in new combinations, and under varied aspects; and many important particulars arise, which impart new features to the people, countries, and productions which are described.

It is pleasing, however, to observe, amidst this diversity of statement, this variety of delineation, a perfect consistency running through both works. This harmony is highly creditable to the veracity of their respective authors. Each has explored the same source; and having drawn his supplies from the fountain-head of information, the fidelity of each narrative, so far as any parallel appears between them, receives, from this happy concurrence, the genuine stamp of truth.

These volumes of Mr. Bennet contain no theories of philosophical speculation. They imbody an accumulation of facts, derived from actual observation, and so arranged as to present a lively portrait of the customs and peculiarities of those tribes and nations to whom they apply. The incidental occurrences interwoven throughout the narrative, are in general not less interesting than the relations which form its details. Combined together, they impart a degree of utility and entertainment which neither source could exclusively supply. We are therefore led, from the whole, to conclude, that if genuine information respecting the remote portions of the globe, drawn warm from rational, animal, and vegetable life, can render a publication popular, the journal of Mr. Bennet will speedily command an extensive circulation.

In support of the preceding observations, we now proceed to lay some extracts before our readers.

Habits and Customs of Natives of New South Wales.

"When one dies a natural death, the corpse, shrouded in pieces of bark, is laid on the ground, and four small fires are lighted at the head and feet on either side. A grave is scratched up in the ground and another fire lighted in the hole, which is allowed to burn out; the body of the deceased is then laid upon the ashes, with any little property which belonged to him,—his club, his spear, his clothes,—and the earth is heaped over all. But if the person fell in war, or his blood was shed by murder or chance-medley, his body is not buried, but burnt to dust. Like all savages, the New Hollanders use their women cruelly. They get their wives by violence, seizing them by storm, or springing upon them from ambush—when, if the unfortunate female makes any resistance, her uncourteous suitor knocks her down with his waddy, (a tremendous cudgel,) and carries her off, on his shoulders, in a state of insensibility, with the blood streaming from the love-tokens which he has inflicted on her. Ever afterwards she is his slave; at meals she and her daughters sit behind her husband and her sons, picking the bones, or gorging on the refuse of the garbage with which the lordly sex appease their gluttony, and which are occasionally thrown to them, as dogs are fed in a poor man's family in England. Their cross, deformed, and diseased children are often killed out of the way, but they are very fond of those whom they rear. 'From the quick and eager exercise of their eyes, in seeking for their prey, they are exceedingly keen-sighted, and discover birds in the trees, or venomous reptiles in the grass, where Europeans see nothing. Of serpents they are much afraid, and flee from them as from death. They are proportionately skilful in tracking the kangaroo, the emu, or any other animal over the grass, which might seem, to our eyes, as undisturbed as though Virgil's Camilla herself had passed over it, without bending a blade or shaking the dust from the blosom of a flower. They follow the trail of their countrymen, with equal sagacity and confidence, for leagues together, through woods, and over wilds, apparently as printless as the air; and when once they have seen the foot-mark of a European, they never forget it, but can instantly recognize the faintest vestige of the same.—Vol. ii. p. 154.

A Court of Justice in the South Seas.

"We have just witnessed the novel scene of a court of justice here. Hard by the chapel, there stands a magnificent purau-tree, round about and under the expanded shade of which, long forms for seats were fixed, enclosing a square of about twenty-five feet across. No pains had been taken to clear the ground, which happened to be strewn with loose stones. The judges took their places on the benches. Most of these were secondary chiefs, the superior ones being with Pomare at Tahiti. They were handsomely robed in purau mats and cloth tibutas, with straw hats, and made a most respectable appearance. There were nearly thirty of these; among whom one, called *Tapuni*, having been previously appointed chairman of the tribunal, was distinguished above the rest by a bunch of black feathers, gracefully surmounted with red, in his hat. Hundreds of people seated themselves on the outside of the square. Two young men were then introduced, who sat down quietly at the foot of the tree. These were the culprits: they were charged with having stolen some bread-fruit. Silence and earnest attention prevailed. Tapuni now rose, and called upon the accused to stand up, which they immediately did. He then stated the offence for which they were arraigned, and as their guilt was clear, having been detected in the fact, he told them that they had committed rebellion, by breaking the law, outraging the authority of the king, and disgracing the character of their country. One of the young men, hereupon, frankly confessed that he had perpetrated the theft, and persuaded his comrade to share with him the crime and the plunder. Witnesses are seldom called in such cases, offenders generally acknowledging their misdeeds, and casting themselves on the justice of the court to deal with them accordingly. This is a remarkable circumstance, and we are assured that it is so common as to constitute a trait of national character. A brief conversation followed among the judges, respecting the *utua*, or punishment, to be inflicted on the youths, as they were thus *fanhapa*, or found guilty. The sentence was then delivered by the president; this was, that they should each build four fathoms of a wall, now erecting about a plot of taro ground belonging to the king. In such cases, the condemned are allowed their own reasonable time to execute the task required, and it generally happens that their friends, by permission, lend them assistance. We have seen an aged father helping his son to perform hard labour of this kind, which must, nevertheless, be finished to the satisfaction of an authorized inspector. It is remarkable, in the administration of justice here, that, when the sentence is pronounced, the criminal is gravely asked whether he himself agrees to it, and he generally replies in the affirmative. There is something very primitive and patriarchal in this simple yet solemn form of conducting trials."—Vol. i. p. 179.

Among the incidental occurrences and relations recorded in these volumes, the

following affecting memorial cannot fail to interest every reader. On board the brig in which Mr. Bennet was on one occasion sailing, he informs us, there were three captains as passengers to America, one of whom, George Pollard, related the singular and lamentable story of a former shipwreck, which is subjoined:

"My first shipwreck was in open sea, on the 20th of November, 1820, near the equator, about 118° W. long. The vessel, a South Sea whaler, was called the Essex. On that day, as we were on the look out for sperm whales, and had actually struck two, which the boats' crews were following to secure, I perceived a very large one—it might be eighty or ninety feet long—rushing with great swiftness through the water, right towards the ship. We hoped that she would turn aside, and dive under, when she perceived such a bulk in her way. But no! the animal came full force against our stern-port: had any quarter less firm been struck, the vessel must have been burst; as it was, every plank and timber trembled throughout her whole hulk.

"The whale, as though hurt by a severe and unexpected concussion, shook its enormous head, and sheered off to so considerable a distance, that for some time we had lost sight of her from the starboard quarter; of which we were very glad, hoping that the worst was over. Nearly an hour afterwards we saw the same fish—we had no doubt of this from her size, and the direction in which she came—making again towards us. We were at once aware of our danger, but escape was impossible. She dashed her head this time against the ship's side, and so broke it in, that the vessel filled rapidly, and soon became water-logged. At the second shock, expecting her to go down, we lowered our three boats with the utmost expedition, and all hands, twenty in the whole, got into them—seven, and seven, and six. In a little while, as she did not sink, we ventured on board again, and, by scuttling the deck, we were enabled to get out some biscuit, beef, water, rum, two sextants, a quadrant, and three compasses. These, together with some rigging, a few muskets, powder, &c. we brought away; and, dividing the stores among our three small crews, rigged the boats as well as we could; there being a compass for each, and a sextant for two, and a quadrant for one, but neither sextant nor quadrant for the third. Then, instead of pushing away for some port, so amazed and bewildered were we, that we continued sitting in our places, gazing upon the ship, as though she had been an object of the tenderest affection. Our eyes could not leave her, till, at the end of many hours, she gave a slight reel, then down she sank. No words can tell our feelings. We looked at each other—we looked at the place where she had so lately been afloat—and we did not cease to look, till the terrible conviction of our abandoned and perilous situation roused us to exertion, if deliverance were yet possible.

"We now consulted about the course which it might be best to take—westward to India, eastward to South America, or South-westward to the Society Isles. We knew that we were at no great distance from Tahiti, but were so ignorant of the state and temper of the inhabitants, that we feared we should be devoured by cannibals, if we cast ourselves on their mercy. It was determined, therefore, to make for South America, which we computed to be more than two thousand miles distant. Accordingly we steered eastward, and, though for several days harassed with squalls, we contrived to keep together. It was not long before we found that one of the boats had started a plank, which was no wonder, for whale-boats are all clinker-built, and very slight, being made of half-inch plank only, before planing. To remedy this alarming defect, we all turned to, and, having emptied the damaged boat into the two others, we raised her side as well as we could, and succeeded in restoring the plank at the bottom. Through this accident, some of our biscuit had become injured by the salt-water. This was equally divided among the several boats' crews. Food and water, meanwhile, with our utmost economy, rapidly failed. Our strength was exhausted, not by abstinence only, but by the labours which we were obliged to employ to keep our little vessels afloat, amidst the storms which repeatedly assailed us. One night we were parted in rough weather; but though the next day we fell in with one of our companion-boats, we never saw or heard any more of the other, which probably perished at sea, being without either sextant or quadrant.

"When we were reduced to the last pinch, and out of every thing, having been more than three weeks aboard, we were cheered with the sight of a low, uninhabited island, which we reached in hope, but were bitterly disappointed. There were some barren bushes, and many rocks on this forlorn spot. The only provisions that we could procure were a few birds and their eggs; this supply was soon reduced: the sea-fowls appeared to have been frightened away, and their nests were left empty, after we had once or twice plundered them. What distressed us most was the utter want of fresh water; we could not find a drop any where, till, at the extreme verge of ebb tide, a small spring was discovered in the sand; but even that was too scanty to afford us sufficient to quench our thirst before it was covered by the waves at their turn.

"There being no prospect but that of starvation here, we determined to put to sea again. Three of our comrades, however, chose to remain, and we pledged ourselves to send a vessel to bring them off, if we ourselves should ever escape to a Christian port. With a very small morsel of biscuit for each, and a little water, we again ventured out on the wide ocean. In the course of a few days our provisions were consumed. Two men died; we had no other alternative than to live upon their remains. These we roasted to dryness by means of fires kindled on the ballast-sand at the bottom of the boats. When this supply was spent, what could we do? We looked at each other with horrid thoughts in our minds, but we held our tongues. I am sure that we loved one another as brothers all the time; and yet our looks told plainly what must be done. We cast lots, and the fatal one fell on my poor cabin-boy. I started forward instantly, and cried out, 'My lad, my lad, *if you don't like your lot*, I'll shoot the first man that touches you.' The poor emaciated boy hesitated a moment or two; then, quietly laying his head down upon the gunnel of the boat, he said, '*I like it as well as any other.*' He was soon despatched, and nothing of him left. I think, then, another man died, and him, too, we ate. But can tell you no more—my head is on fire at the recollection—I hardly know what I say. I forgot to say that we had parted company with the second boat before now. After some more days of horror and despair, when some were lying down at the bottom of the boat not able to rise, and scarcely one of us could move a limb, a vessel hove in sight. We were taken on board, and treated with extreme kindness. The second lost boat was also picked up at sea, and the survivors saved. A ship afterwards sailed in search of our companions on the desolate island, and brought them away."

"Captain Pollard closed his dreary narrative with saying, in a tone of despondency never to be forgotten by him who heard it—'After a time I found my way to the United States, to which I belonged, and got another ship. That, too, I have lost by a second wreck off the Sandwich Islands, and I am utterly ruined. No owner will ever trust me with a whaler again, for all will say I am an *unlucky* man.'" Vol. ii. 24–29.

Modes of Living among the Chinese.

"The modes of living, among the Chinese, are very different, according to the rank and wealth of the people; but the extremes of luxury and misery are no where more ludicrously contrasted. Those who can afford to purchase rare and expensive delicacies grudge no cost for them, as is proved by the price paid for edible birds' nests (glutinous compositions, formed by a kind of swallow, in vast clusters, found in caves in the Nicobar and other islands,) five thousand dollars being sometimes given for a picul, weighing one hundred and thirty-three pounds three-quarters. In the streets, multitudes of men are employed in preparing these for sale, with a pair of tweezers plucking from them every hair, or fibre of feather, or extraneous matter; and, at the same time, carefully preserving the form of the nests, by pushing through them very slender slips of bamboo. Sharks' fins are highly prized, and, when well dried, they fetch a great price. The beche-de-la-mer (a horrid looking black sea-slug, formerly described,)

brought from the Pacific Islands, is also exceedingly esteemed by Chinese epicures. But, while the rich fare thus sumptuously, the mass of the poor subsist on the veriest garbage. The heads of fowls, their entrails, their feet, with every scrap of digestible animal matter — earth-worms, sea-reptiles, of all kinds, rats, and other vermin, are greedily devoured. We have noticed lots of black frogs, in half dozens, tied together, exposed for sale in shallow troughs of water. We have seen the hind-quarter of a horse hung up in a butcher's shop, with the recommendation of the whole leg attached. A lodger in our hotel complains that, his bed-room being over the kitchen, he is grievously annoyed in a morning by the noises of dogs and cats, which are slaughtering below for the day's consumption—but not at our table. Not a bone nor a green leaf is ever seen in the streets: some use or another is found for every thing that would be refuse elsewhere."—Vol. ii. p. 256.

REVIEW.—*The History and Topography of the United States of America, with a Series of Views, Parts* 7, 8, 9, 10, 11, 12. *By John Howard Hinton, A.M. Hinton. London.* 1831.

IN a preceding number of the Imperial Magazine, we reviewed the earlier Parts of this splendid work, and were so highly pleased with its varied excellences, that more room was appropriated to our remarks than on such occasions we can generally allow. This, however, must now become an apology for the comparative brevity of our present observations.

So far as the work has proceeded, every part is calculated to gratify the expectations which the earlier portions excited. The plates, which are numerous, are of a superior order. The designs are taken both from the labours of art, and the productions of nature. Each subject is of an interesting character, and the manner in which the whole is executed, is highly creditable to the artists who have been employed. Both the paper and the letter-press may boldly solicit, rather than skrink from, a close examination. The pages have an elegant aspect, and appear to be free from typographical error.

Mere embellishment is, however, of little importance, when compared with the facts which they illustrate, and the historical events which the compiler details. The parts now under examination relate chiefly to the early history of the States, the period and manner of their settlement, the difficulties which the primitive adventurers were compelled to encounter, and the foundations on which the original right to possession rests. In this last respect, the history and fate of many Indian tribes, or nations, are involved. To these the author frequently refers; and from every circumstance connected with this deeply injured, but rapidly diminishing people, this work derives an additional interest.

The early settlement of colonies is always pregnant with original occurrences, which, though insignificant in themselves, are big with consequences of the utmost importance to future years. In these we perceive the germs to which momentous effects and results may be distinctly traced; and hence may be inferred the necessity, that every historian should have an intimate acquaintance with the springs and sources of those movements which give colouring and aspect to the character of nations, when they rise into maturity.

To these primary principles the author of this work has paid commendable attention, and by so doing he has laid a permanent foundation, on which to erect his superstructure, and on which his readers may found a rational expectation that their hopes will not be disappointed. It is a work of great promise, and we have no reason to fear any deterioration as it advances towards completion.

Nations in general are so tardy in their growth, that the links which unite their infancy and maturity together, lie not within the range of an individual life. With the United States of America, the case, however, assumes a very different aspect. We have seen them within our own day shaking off the trammels of subjection, and assuming the character of independence: we have seen that independence cherished by the fostering hand of patriotism, and we now behold these states elevating their heads among the most powerful and most ancient empires of the world.

These sources the author has carefully explored, and these connecting links we can have no doubt that he will distinctly trace; and by the achievement he will raise a monument to his own fame, in some respects corresponding with the glory of that independence, which his history is intended to delineate.

REVIEW.—*Family Classical Library, Vol. XVI. The Characters of Theophrastus, illustrated by Physiognomical Sketches.* 12*mo. pp.* 175. *Valpy. London,* 1831.

IN this volume, amusement and instruction are so happily blended together, that each derives an advantage from the other. The variety exhibited, and the exquisite touches which appear in the author's delineations of character, short, pointed, and always true to nature, confer upon it a superiority of excellence, which few works can boast. The forcible descriptions of the author, the artist has accompanied with physiognomical sketches, in which the soul of the individual character is visibly portrayed in the lineaments of the countenance. In number, these

sketches amount to fifty, and in some respects, as they may be considered bordering on caricature, perhaps many will be inclined to question the fidelity of the features; but since the delineations are intended to expose what is either blameable, pernicious, or detestable, in human nature, the designer may be fairly tolerated in "snatching a grace beyond the reach of art."

Theophrastus was born at Eresus, in Lesbos, nearly three hundred years before the Christian era, and died at the advanced age of 107. Connecting the period in which he flourished with his writings, and comparing his descriptions with these likenesses, displayed in actual life by similar characters in the present day, we cannot but notice that the lapse of twenty centuries has produced no change in human nature. The dissembler of this author, is precisely the dissembler of the present day. And if Theophrastus had lived in A. D. 1831, he could not have been able to furnish out his descriptions from modern subjects with greater accuracy.

To illustrate these preliminary observations, we beg to introduce the following extracts; leaving every reader whom they may concern, at liberty to make his own application of the characters described.

The Garrulous.

"Garrulity is an effusion of prolix and unpremeditated discourse. The garrulous man happening to sit beside one with whom he has no acquaintance, begins by recounting the various excellences of his wife; then he says, that last night he dreamed a dream, which he narrates at length; this leads him to mention, one by one, the dishes that were placed within his reach at supper. By this time his tongue has gained velocity in going, and he proceeds in a loftier strain: 'Alas!' saith he, 'how much more depraved are the men of our times than were their ancestors! and what a price has corn fallen to now in the markets! and how the city swarms with strangers! By the time the bacchanalia are over, the sea will be covered again with ships: should it please Heaven, just now, to send rain, it would be a vast blessing to the wheats.'

"Anon he announces his determination to farm his own land the ensuing year. 'But how hard is it,' says he, 'in these times to get a living! I must tell you, being, as I perceive, a stranger, that it was Damippus who displayed the largest torch at the late festival. By the bye, can you tell me, now, how many pillars there are in the Odeum? Yesterday I was sick: hem! What day of the month is this?'

"If you will bear with a fellow of this sort, he will never let you go; for rather than talk should fail, he will inform you of all the festivals that happen throughout the year, gravely telling you, that in September is celebrated the feast in honour of Ceres; in October, the Apaturia; the rural Bacchanalia, in December; and so forth. But if you would not be hurried into a fever, you must shake him off, and make your escape as fast as possible. In truth, it is hard to consort with those who have no perception of what is proper, either to moments of relaxation, or to hours of business."—p. 14.

The Rustic.

"Rusticity is an unconsciousness of things indecorous. The rustic, after having taken an offensive drug, forthwith goes into company. Smelling some exquisite perfume, he exclaims, 'Tis not a whit sweeter than a sprig of thyme.' The shoes he wears are too large for his feet. He talks in a bawling tone; and his posture as he sits is indecent. Distrusting his friends and nearest relatives, he converses on the most important concerns with his servants; or, returning from the city, he reports all that has passed in council to the labourers on his farm. In travelling, he admires nothing that is beautiful, he is affected by nothing that is sublime; but if he encounters an ox, or an ass, or a goat, he makes a halt, and stares at it. He will filch a morsel from the pantry; devour it voraciously; then swallow a dram; and withal seek to conceal the theft from his own cook-maid: at another time he will grind with her at the mill, and himself measure out the day's provisions for the family. During dinner he throws morsels to the domestic animals that are suffered to range through the house; or he runs to the door when any one knocks. Instead of noticing his visitor, he calls the house-dog from his kennel, and, holding him by the muzzle, exclaims, 'Here is he that takes care of house, and farm, and family.' When he receives money, he affirms it to be bad, and demands that it may be changed. If he has lent a plough, or a basket, or a sickle, or a sack, to a neighbour, he wakes perhaps in the middle of the night, and, remembering the loan, will go and ask for it. On his way to the city, he accosts any one he may meet, with abrupt questions:—'How are hides selling now? and what is bacon in the market? Tell me, do the games to day bring us a new moon?' and then he adds, 'as soon as I get to town I mean to be shaved.' This man sings aloud while he is in the bath: he drives nails into his shoes; and you may meet him with a ham on his shoulders, which he has bought as he chanced to pass through the market."—p. 16.

The Parsimonious.

"Parsimony is an excessive and unreasonable sparing of expense. The parsimonious man calls at the house of his debtor to demand a half-penny of interest, left over in last month's payment. At a banquet, he carefully notes how many cups of wine are drank by each guest; and of all the offerings to Diana, usual on such occasions, his will be the least. If the smallest article be purchased for his use, however low may be the price, he will say it is too dear. When a servant breaks a pot or a pan, he deducts the value of it from his daily allowance; or if his wife chances to lose a brass button or a farthing, he causes tables, chairs, beds, boxes, to be moved, and the wardrobe to be hunted over in search of it. Whoever would deal with him must be content to lose by the transaction. He suffers no one to taste a fig from his garden; nor even to pass through his fields; no, nor to gather a fallen date or olive from the ground. He inspects the boundaries of his farm, to assure himself that the hedges and fences remain in their places. He demands interest on interest, if payment is delayed a day beyond the appointed time. If he gives a public dinner to his ward, he carves out a scanty portion for each, and places his allowance before every guest. He goes to market, and often returns without having purchased a single article. He strictly charges his wife to lend nothing to her neighbours; no, not even a little salt, nor a wick for a lamp, nor a bit of cummin, nor a sprig of marjoram, nor a barley cake nor a fillet for the victim, nor a wafer for the altar: 'for,' saith he, 'these little matters put together make a great sum in the year.'

"In a word, you may see the coffers of this fellow covered with mould; and himself, with a bunch of keys at his girdle, clad in a scanty garb, sparingly anointed, shorn to the scalp, and slipshod at noon: and you may find him in the fuller's shop, whom he is charging not to spare earth in cleaning his cloak, that it may not so soon require dressing again."—p. 31.

The Detractor.

"The Detractor utters not a word that does not betray the malignancy of his soul. If he is asked

—what sort of a person is such a one? he replies as if the man's genealogy had been required: Ah, I know him: his father's name was at first Sozias; a name befitting his servile condition; it was while he served as a common soldier that he acquired the name of Sositratus: some time afterwards he was inscribed among the citizens of the lower order. As to his mother, she was *a noble Thracian*, no doubt, for women of *her sort* are accounted *noble* in that country. The man himself is such as his origin would lead one to suppose—he is the veriest scoundrel alive.' Then he adds, in explanation of what he said of the man's mother, 'These Thracian women practise every sort of outrage on the highway.'

"If he comes into company where a neighbour is defamed, he presently takes the lead in the conversation:—'Yes,' he begins, 'there is not a being on earth I detest so much as the man you are speaking of: his looks are enough to condemn him: was there ever such a villain? you may take, as a specimen of his character, what I know to be a fact,—that he ordinarily sends his wife to market with three half-pence to buy provisions for the whole family; and that he obliges her to bathe in cold water in the depth of winter.'

"The moment any one leaves the company, the detractor fails not to introduce some tale to his disadvantage; nor is there any one of his friends, or any member of his family, who escapes the scourge of his tongue: he will even speak ill of the dead."

REVIEW.—*Family Classical Library. No. XV. Tacitus, Vol. V.* 12*mo. pp.* 352. *Colburn, London.* 1831.

To the general Christian reader, this volume will be found more interesting than either of the preceding, which bears the name of Tacitus; because it treats of numerous events recorded in scripture, and furnishes an invaluable evidence on the fulfilment of prophecy. The siege of Jerusalem, its internal commotions, vicissitudes, and final overthrow, find also in these pages an ample, and deeply interesting detail. A few extracts will supersede the necessity of any further observations.

"Portents and prodigies announced the ruin of the city: but a people, blinded by their own national superstition, and with rancour detesting the religion of other states, held it unlawful by vows and victims to deprecate impending danger. Swords were seen glittering in the air; embattled armies appeared, and the temple was illuminated by a stream of light that issued from the heavens. The portal flew open, and a voice more than human denounced the immediate departure of the gods. There was heard at the same time a tumultuous and terrific sound, as if superior beings were actually rushing forth. The impression made by these wonders fell on a few only: the multitude relied on an ancient prophecy, contained, as they believed, in books kept by the priests, by which it was foretold, that, in this very juncture, the power of the East would prevail over the nations, and a race of men would go forth from Judea, to extend their dominion over the rest of the world." —p. 20.

It is an event which the world will never cease to deplore, that the remaining portion of Tacitus, describing this awful catastrophe, and its calamitous results, should be irrecoverably lost. He describes the city, the temple, the people, their courage, means of defence, internal commotions, and the preparations made to subdue them, with all the perspicuity and dignity for which his writings have been so long and so justly distinguished; but having brought us to the commencement of the siege, the remaining portion of his narrative disappears; and, to supply the deficiency, we are obliged to have recourse to other authority, from which the following passages are selected.

"A dreadful famine laid waste the city. The streets were covered with the dead and the dying: old men, women, and children, stretched forth their hands for sustenance, and expired in the act: the wounded soldiers perished for want of relief; shrieks, and groans, and lamentations resounded in every quarter: the surviving wretches envied the fate of those who died first: they lived only to prolong their misery, fixing their eyes on the temple, and invoking death to end their woes. The rites of sepulture were neglected. It was necessary, however, to remove the dead bodies. Simon and John ordered them to be thrown down the steep into the lower city. Titus went to view the unhappy victims, as they lay in heaps under the walls. Shocked at a scene so melancholy and affecting, he lifted up his hands to heaven, and called the gods to witness, that he was not the cause of these dreadful calamities."—p. 51.

The destruction of the temple is thus described:

"The cries of the dying, and the shouts of the victors, reverberated by the surrounding walls, filled the place with dreadful uproar. The orders of Titus and his officers were no longer heard. The Jews in some parts fought with frantic obstinacy. Numbers in despair fled to the sanctuary. There the false prophets still assured them that the Lord of hosts was on their side. In that instant the besiegers forced the gates. The massy gold and glittering ornaments inspired them with new ardour. The love of plunder conspired with revenge, and Titus exerted himself in vain to restrain their fury. One of the soldiers mounted to the top of the portico, and threw a combustible weapon, which clung to the wood-work, and set fire to the whole building. The Jews saw that all was lost, and, in their last agony, sent forth the groan of an expiring people. Titus withdrew from the scene of desolation, lamenting that his efforts to save the place were without effect. As he passed along, word was brought to him that a number of priests stood on the outside wall, imploring him to spare their lives. 'It is too late,' said Titus, 'the priests ought not to survive their temple.' He retired to Fort Antonia, and there beholding the conflagration, and lifting up his hands, exclaimed with a sigh, 'The God of the Jews has fought against them: to him we owe our victory.'"—p. 58.

In addition to those portions of this volume which relate to the Jews, it contains the manners of the Germans, the life of Agricola, and a dialogue concerning oratory.

REVIEW.—*The Sunday Library, &c. By the Rev. T. F. Dibdin. Vol II.* 12*mo. pp.* 330. *Longman, London,* 1831.

THIS volume is ornamented with a respectably looking portrait of Bishop Porteus, from whose pen the two leading articles have been selected. The others which follow, are from divines of no mean cele-

brity in the established church; and those which are intended to complete the series, will be drawn from the same common source. The selections do not appear altogether in the character of sermons, though they have avowedly been taken from compositions of this description. The truths which they contain are evidently of vast importance, being of a practical nature, and inculcating duties, the discharge of which, all must allow to be incumbent on such as deserve the Christian name.

We cannot, however, avoid observing, that the distinguishing doctrines inculcated in the gospel, do not sustain in them that prominent character, which might be both desired and expected. The fall of man, the necessity of an expiatory sacrifice, the reality of an atonement, and its influential efficacy on the souls of men, the operation of the Spirit of God, its transforming power, producing effects that can flow from no other source—are branches of evangelical religion, on which we could have wished that these worthy divines had more strenuously and unequivocally insisted. We do not mean to insinuate, that any of these gospel-truths are denied; they are rather omitted, than rejected; and the allusions to them seem to arise more from implication than from tacit recognition.

It cannot, however, be denied, that many theological writers inculcate what they call evangelical principles, at the expense of practical godliness. Dreading to be legal, they become antinomians; and having sunk into this destructive abyss, they stand fast in the liberty wherewith they fancy Christ has made them free. This diabolical heresy makes Christ the minister of sin, and wraps the unconverted sinner in the imaginary robe of his imputed righteousness. A more foul and loathsome pestilence never afflicted the Christian church.

Contrasted with this nuisance, we cannot but rejoice, that, in these volumes, the practical part of genuine religion is steadily and rationally enforced; and we entertain no doubt, that in the subsequent volumes evangelical truths will more than compensate for the partial deficiency of which we now complain. To the full development of the Christian system, both branches are essentially necessary, and in proportion to the absence of either, the whole is mutilated, and its purposes are defeated. Faith and works are necessary to the utility of each other; and it is only when we behold them united on permanent principles, that the Sun of righteousness illuminates, warms, and fertilizes the moral world with his enlivening beams.

REVIEW.—*The Tour of the Holy Land, &c. with an Appendix. By the Rev. Robert Morehead, D.D.* 12*mo.* *pp.* 283. *Simpkin and Marshall, London.* 1831.

To Jews and Christians there can be no doubt that Palestine, and its adjacent countries, contain the most interesting portions of the globe. In wandering through its forlorn and half-depopulated regions, surrounded by monuments rendered venerable by their antiquity, and sacred by innumerable associations connected with memorable persons, transactions, and events, a thousand solemn reflections obtrude themselves on the mind, and in pleasing melancholy we recall departed days, and sigh over the instability of earthly grandeur.

Rising in elevation, we seem to behold the fiat of Omnipotence verifying the word of prophecy, and transmitting the memorials of his justice and power to each succeeding generation, warning the nations to take an example by the scenes of desolation which they are called to witness. What has already happened, may again occur. Similar causes may be expected to issue in similar effects; and those that are wise will learn a lesson by the painful contemplation.

It is scarcely possible for an infidel to visit Palestine without suspecting the validity of his speculations. The phenomena obvious to the evidence of his senses, are too powerful to be resisted; and, on comparing what he perceives, with the delineations and predictions of holy writ, he cannot but perceive the finger of God in all. The scenes which he beholds are too complicated and singular to be ascribed wholly to natural causes; and even should this be admitted, the predictions of prophecy, operating in strange concurrence with them, acquire strength by the means adopted to dispense with their interference.

Of those interesting regions, many accounts have been recently published in various forms, but every new survey develops something, which previous examinations had overlooked, and calls the fading glory fresh again to our remembrance. Acting on this principle, Mr. Morehead has compiled his present work from various sources which are allowed to be authentic, and, by the arrangement of his materials, and the dialogue form in which they are presented to the reader, has completed a pleasing and an interesting volume. One of its principal designs is, to establish facts, and then to bring them into contact with revelation, so that the truth of the latter being corroborated by the unquestionable existence of the

former, the workings of God may appear conspicuous in all.

With the dialogue style we are by no means fascinated. Much time is wasted in preliminary remarks and introductory observations. It also betrays something like contrivance, which, in a work of this description, never ought to be introduced. In solemn historical narrative, whatever is gained by art, is more than lost in the surmises of fiction to which it gives birth. To this we may apply the old proverb, "Good wine needs no bush."

The Appendix, occupying about forty pages in small type, is full of thrilling interest. The journalist evidently wrote from observation; and in plain but forcible language, he records what he felt, and what he saw. His descriptions, though short, are animated; and the life, which, without any effort, is diffused throughout the narrative, fully compensates for its brevity.

To the young classes of readers this book will he found very agreeable. It compresses much information within a narrow compass, and is calculated to awaken a desire for a more intimate acquaintance with the varied scenes which it describes.

REVIEW.—*A Manual of Religious Instruction for the Young, &c. &c. By the Rev. Robert Simson, M.A.* 12*mo. pp.* 384. *Duncan. London.* 1831.

MR. SIMSON, in his preface, disclaims all pretensions to originality in this work. It is avowedly a compilation; and, for a considerable portion of its contents, he candidly acknowledges himself indebted to the labours of Dr. Alexander.

But from what source soever the materials may have been derived, most of them are of sterling character, and promise fair to be of great practical utility. The volume comprises the sacred history of the Old and New Testament dispensations; a brief outline of the evidences of the Christian religion, deduced from miracles, predictions, and their accomplishments; and an epitome of the internal evidence, that a system of such sublime moral purity must have come from God.

In what is denominated "An accurate statement of the doctrine of the gospel," the dogmas of Calvinism make their appearance, dressed up indeed in a new coat, the old one having become both shabby and unfashionable. The more offensive part is, however, rather concealed than removed; and he who peeps beneath the flowing garment by which it is hidden, will soon discover that deformity is not to be removed by any attire.

For these peculiarities in Mr. Simson's views, we can, however, readily make all due allowance, and also for a certain phraseology, which appears to be inseparable from them. Yet we cannot avoid regretting, that they should have been introduced into a manual of religious instruction, and thus become blended with truths of the most unequivocal character.

The history of the sacred dispensations contains a beautiful analysis of revealed truth; and the evidence deduced in favour of the Christian religion, from miracles, predictions, and internal excellence, is both strong and convincing. "An address to the young," with which the volume concludes, imbodies much wholesome and affectionate advice, which the pupils would do well to follow, and reduce to practice.

REVIEW.—*A Treatise on the Nature and Causes of Doubt in Religious Questions, &c. &c. &c.* 12*mo. pp.* 194. *Longman, London,* 1831.

THIS work is entitled to more attention than we can devote to it; but let it once become known, and the extent of its circulation will furnish the best testimonial of its worth. To originality it neither does nor can make much pretension; yet the anonymous author has displayed an extensive acquaintance with the complicated subject to which he has turned his thoughts.

It is not from the apex of a pyramid, but from the summit of a mountain, that his surveys are taken; and the questions to be investigated are generally examined in this elevated region. Of the common mechanical methods of treating such subjects, we find scarcely any traces. On most occasions the author has an eye to their rationality, and his quotations are from some of the master spirits of the world.

The doubts examined are the doubts of scepticism, and the solutions are those which philosophy supplies. The vices which are generated in an unhallowed spirit, the author strips of their delusive varnish, and rationally states the pernicious consequences to which they lead. Of sterling works, written avowedly to combat the sceptical philosophy of Hume, Gibbon, and others of similar character, the list furnished will be of essential service to those who may have been tainted with the moral poison; and where that has not been the case, these publications may operate as preventives, when antidotes are not wanted.

REVIEW.—*The Cabinet Cyclopedia. By Dr. Lardner, Vol. XVI. Maritime and Inland Discovery, Vol. III.* 12*mo. pp.* 384. *Longman, London,* 1831.

THIS work is so well known, that little more need be said, than to announce the appearance of any new volume in the series. This is the third of Maritime and Inland Discovery, which will complete this department. It contains an epitome of voyages and travels, undertaken and accomplished by various adventurers of different nations, in comparatively modern times, without being confined to any particular portion of the globe. A selection is made of all that is interesting and important, excluding what might be deemed the tediousness of unnecessary details. The following brief extracts will place this volume in a favourable light.

"*Natives of Van Dieman's Land.*—While the English remained here, they were agreeably surprised by a visit from some of the natives, who, in their abject misery, rooted indolence, and stupidity, appeared to be on an equality with the wretched inhabitants of Terra del Fuego. Their most comfortable dwellings were the trunks of large trees hollowed out by fire. They appeared to be ignorant of the art of fishing; not a single canoe was seen on their whole coast. Their chief subsistence was derived from small birds and shell-fish, which they collected along the shore."—p. 71.

"*Shipwreck of La Perouse.*—The natives denied that they had attacked and killed the crew of one of the ships; nor was Captain Dillon able to find any confirmation of the report, which he had heard from the Tucopians, that the skulls of the shipwrecked strangers were preserved in a public building called the *spirit-house*; he is of opinion that the hostility of the islanders to the French, who it appears were obliged, while they remained on the island, to entrench themselves with wooden palisades, arose not from wanton barbarity, but from the belief that the strangers were preternatural beings, or spirits of the sea. That their habitual ferocity was irritated by superstition, is rendered likely from the accounts which they give of the French, whom they describe as conversing with the sun and the stars by means of a long stick, thus obviously alluding to the business of the observatory. The cocked hats of the French, perhaps, misled them into the belief that their noses were a yard long. Their description of the sentinels was not less ludicrous; for they represented them as men standing on one leg, and holding a bar of iron in their hands."

"*Fate of La Perouse.*—When Captain Dillon arrived in Paris, in February 1828, with the relics of the French expedition, he was graciously received by Charles X., who liberally recompensed his toils with a pension of 4000 francs. Count Lesseps, who had quitted the expedition of La Perouse at Kamtschatka, recognised the guns and the millstones as resembling those which were on board the French frigates; the carved backboard, also, he believed to belong to the Boussole; the armorial bearings, engraved on the bottom of a silver candlestick included among the relics, were at the same time recognized, by the expert genealogist, Sir William Bentham, to be those of Coignon, who was botanist on board the same frigate. Thus it appears likely that the Boussole, with La Perouse himself, was thrown upon the ridge, while the Astrolabe and all her people sank in deep water. What became of the unfortunate commander, after he left Manicolo, it is impossible to conjecture."—p. 111.

REVIEW.—*Lardner's Cabinet Cyclopedia, Vol. XVII. Hydrostatics and Pneumatics.* 12*mo. pp.* 353. *Longman. London.* 1831.

OF this volume, our best recommendation will be a few extracts from its pages; but where every article is both entertaining and useful, it is not easy to make a selection. In the changes which take place in the weather, every reader is, however, so far interested, that the following observations on this important subject, can hardly fail to prove gratifying:—

"The most immediate use of the barometer for scientific purposes is, to indicate the amount and variation of the atmospheric pressure. These variations being compared with other meteorological phenomena, form the scientific data from which various atmospheric appearances and effects are to be deduced.

"The fluctuation in the pressure of the atmosphere being observed, in connexion with changes in the state of the weather, a general correspondence is supposed to prevail between these effects. Hence the barometer has been called a *weather-glass*. Rules are attempted to be established, by which, from the height of the mercury, the coming state of the weather may be predicted, and we accordingly find the words "Rain," "Fair," "Changeable," "Frost," &c., engraved on the scale attached to common domestic barometers, as if, when the mercury stands at the height marked by these words, the weather is always subject to the vicissitudes expressed by them. These marks are, however, entitled to no attention; and it is only surprising to find their use continued in the present times, when knowledge is so widely diffused. They are, in fact, to be ranked scarcely above the *vox stellarum*, or astrological almanack.

"Two barometers, one near the level of the river Thames, and the other on the heights of Hampstead, will differ by half an inch; the latter being always half an inch lower than the former. If the words, therefore, engraved upon the plates are to be relied on, similar changes of weather could never happen at these two situations. But what is even more absurd, such a scale would inform us that the weather at the foot of a high building such as St. Paul's, must always be different from the weather at the top of it.

"It is observed, that the changes of weather are indicated, not by the actual height of the mercury, but by its *change* of height. One of the most general, though not absolutely invariable, rules is, that when the mercury is very low, and therefore the atmosphere very light, high winds and storms may be expected.

"The following rules may be generally relied upon, at least to a certain extent:—

"1. *Generally*, the rising of the mercury indicates the approach of fair weather; the falling of it shews the approach of foul weather.

"2. In sultry weather, the fall of the mercury indicates coming thunder. In winter, the rise of the mercury indicates frost. In frost, its fall indicates thaw; and its rise indicates snow.

"3. Whatever change of weather suddenly follows a change in the barometer, may be expected to last but a short time.—Thus, if fair weather follow immediately the rise of the mercury, there will be very little of it; and in the same way, if foul weather follow the fall of the mercury, it will last but a short time.

"4. If fair weather continue for several days, during which the mercury continually falls, a long continuance of foul weather will probably ensue; and again, if foul weather continue for several days, while the mercury continually rises, a long succession of fair weather will probably succeed.

"5. A fluctuating and unsettled state in the mercurial column indicates changeable weather.

"The domestic barometer would become a much more useful instrument, if, instead of the words usually engraved on the plate, a short list of the best established rules, such as the above, accompanied it, which might be either engraved on the plate, or printed on a card. It would be right, however, to express the rules only with that degree of probability which observation of past phenomena has justified. There is no rule respecting these effects, which will hold good with perfect certainty in every case."

BRIEF SURVEY OF BOOKS.

1. *The Manners and Customs of the Jews, and other Nations mentioned in the Bible*, (Religious Tract Society, London,) is a decent little work, which carries the reader over an extensive field, and introduces him to modes of life which Europe never saw. The information thus imbodied and communicated, is derived from the authority of scripture, and the testimony of modern travellers. It is a mark of divine providence, that eastern customs undergo scarcely any variation with the lapse of time. Hence, the statements of the Bible made three thousand years since, are exemplified by an appeal to fact in the present day. Many wood-cuts adorn this volume.

2. *A School Treatise on Ancient Geography, upon a New Plan, by Joseph Gay, Junior*, (Joy, London,) is adapted for the seminary, and it will be found serviceable in families. Of such works the principal utility is, to know the ancient names of people, and boundaries of places, now distinguished by modern appellations. From the volume before us this information may be satisfactorily obtained.

3. *Sketches of Genius, and other Poems, by D. Corkindale*, (Robins, London,) may amuse the author's friends, but beyond these, many readers, adopting one of his lines, will perhaps exclaim, "Tis sad to dine on chop-house miseries."

4. *An Inquiry concerning Baptism, &c. by Sylvanus*, (Palmer, London,) thus tells its own tale: "We may rest assured, from God's most holy word, that water baptism is by no means essential to salvation. Timothy was never baptized—John himself was never baptized—the thief on the cross was never baptized—thousands of converts under St. Paul's ministry were never baptized, and yet these have all joined the company of the spirits of the just made perfect." Such splashes as these will break the scum which is apt to gather over the baptismal pond.

5. *Four Lectures on the Law of the Sabbath, &c. by Henry Forster Burder, D. D.*, (Westley, London,) embrace the institution of the Sabbath at the creation, what is contained in the decalogue, the change of the day, and the due observance of it. Of the divine origin and continued obligation of this glorious institution, the proofs adduced by Mr. Burder never can be denied, while the authority of the sacred records is allowed. On the change from the Jewish to the Christian Sabbath, the common arguments are adduced; but all must allow that the evidence is only circumstantial and probable. The spirit, however, in which this portion of our time is kept holy, is of greater consequence than the day. In favour of this, the author appears triumphantly successful.

6. *An Introduction to Medical Botany, &c. by Thomas Castle, F. L. S.*, (Cox, London,) now appears in an improved condition. In December last, the former impression passed under our review, and by the favourable recollection retained, we were disposed to hail this with pleasant feelings. Nor have we been disappointed. The attention paid by Mr. Castle to botany, in connexion with medicine, is creditable to his talents, and we hope it will be rewarded with its due meed of encouragement and praise.

7. *Anti-Slavery Reporter, Nos. 77, 78, and 79*, contains, as usual, some horrible details of brutal conduct exercised by the colonial tyrants over their defenceless and unhappy slaves. In England the laws protect horses and other beasts; but in the colonies, where the administration of justice is entrusted to wretches who are strangers to humanity, the negro lives and dies without a friend.

8. *A Philosophical Estimate of the Controversy respecting the Divine Humanity, by John Abraham Heraud*, (Fraser, London,) refers to the late ferment which the supposed heresy of Mr. Irving called into existence. During a few weeks it occasioned a considerable stir; but, like many other subjects, awakening fierce contention for a season, it appears to have lived its day and sought repose. That Mr. Irving is disposed to express himself in strong, and sometimes unguarded terms, no one acquainted with either his preaching or writings can doubt. This philosophical estimate of the controversy will, we suspect, be found too refined for common apprehension.

9. *The Documents and Correspondence in the Christian Observer, on the alleged Miraculous Cure of Miss Fancourt*, (Hatchard, London,) relate to the sudden and apparently miraculous cure of a young lady in the vicinity of London, who had for several years been a cripple. Her friends consider her recovery as an act of divine mercy in answer to prayer; but the author

of this pamphlet views it as the effect of excitement. This much is clear, that an instantaneous, a notable and marvellous cure was wrought without any visible means, and it will perhaps require more credulity to believe that simple excitement was its cause, than faith in the divine power to assign it to the agency of God. We by no means consider that the writer has been successful in his attempt.

10. *The Family Baptist, &c. &c., by George Newbury,* (Westley, London,) goes over the old ground, rendered bare by the multitude of travellers, who, having floundered in this morass, have escaped with scarcely a dry garment. The author advances nothing new, and it is to be regretted that so much time should be spent on a subject, by no means essential to salvation.

11. *Cambrian Superstitions, comprising Ghosts, Omens, Witchcrafts, Traditions, &c. of the Principality, by W. Howells,* (Longman, London,) being a book which deals in the marvellous, will, therefore, always find readers. The author does not give his relations as facts, but as subjects of tradition and popular belief. Every country has its legendary tales, which amuse by creating an excitement. This is a specimen of Welsh wonders; but we do not think that, in romantic extravagance, the tales can equal the productions of Ireland.

12. *Twenty-two Short Discourses upon Scripture Passages, by Charles Hubbard,* (Hatchard, London,) are intrinsically excellent, entering into the spirituality of our most holy religion, and inculcating experience, faith, and practice. This unpretending volume contains more sterling and useful truth, than many a splendid tome, decorated with ecclesiastical titles, and charged five times *five* shillings.

13. *Lectures on the Christian Sabbath, by William Thorn,* (Holdsworth, London,) appears before us in the seventh edition. This is an honour, which works pretending to utility, but deficient in what they promise, very rarely attain. The author views the sabbath under its various dispensations, and proves the institution to be of divine appointment, and of lasting obligation. Objections urged against its observance, he manfully meets, on the grounds of antiquity, general concurrence, and practical utility. It is an elaborate treatise, written with affectionate simplicity, and its seven editions prove that it has been favourably received; but, we may add, not more so than it deserves.

14. *A Treatise on the Natural and Chemical Property of Water, &c., by Abraham Booth,* (Wightman, London,) places this necessary of human life before us in a more transparent state than the inhabitants of London are ever allowed to drink it. The purity, pollution, and chemical properties of water, in various places, and under varied impregnations, the author distinctly examines, and points out. The researches displayed in this work are very extensive, and the reasonableness of the author's observations entitles them to much respect. In addition to the history and analyses of medicinal and other waters, which this volume contains, we should have been glad if the author had furnished some simple tests, by which the purity, or different impurities, of water might be detected.

15. *The Essay on "The Signs of Conversion and Unconversion, in Ministers of the Church, to which was awarded the Premium of a Society in* 1811, *by the Rev. Samuel Charles Wilks, M.A.,* (Hatchard, London,) contains such prominent and discriminating marks, that no one can mistake the one for the other, or find them blended in the same individual. The result says, "Ye cannot serve God and mammon." Mr. Wilks follows the minister in his private and public character, in his closet and his pulpit, in his family and among his parishioners, in his doctrines and manner of enforcing them, and makes the whole the criterion of his intrinsic worth.

16. *Objections to Unitarian Christianity Considered, by William Ellery Channing, D.D.,* (Hunter, London,) is a small pamphlet, written as an apology for the Unitarians. The author intimates that their principles have been misrepresented, that they advocate all the moral duties inculcated in the gospel, and only reject dogmas which have no real foundation in the word of God. The pamphlet contains nothing that is new, and scarcely places any thing that is old in a new light.

17. *The Bury Melodies, adapted for Public and Family Worship; an esteemed piece, "Resolve," composed and arranged for the Voice, Organ, Piano, &c., by W. J. White,* (Bates, London,) are certainly not discreditable to the author, whose aim is to promote good congregational singing. Mr. White is already known to the public, and we feel persuaded that these compositions will advance him in their esteem, and increase between them the already subsisting harmony.

18. *Address of Earl Stanhope, President of the Medico-Botanical Society, for the Anniversary Meeting, Jan.* 16, 1831, (Wilson, London,) presents to the public a luminous display of botanical knowledge. It states the medical virtues of plants, bark,

and roots, hitherto but little known in this country, and illustrates their efficacy in cases of hydrophobia, and the poisonous bites of serpents. The society offers a gold medal for the best essay on any vegetable that shall be employed with success in the cure of hydrophobia, and a silver medal for the best essay on the medicinal qualities of any indigenous plant but imperfectly known, and the uses to which it may be applied.

19. *Prayer the best Refuge in Trouble, a Sermon, by William Robinson,* (Mason, London,) furnishes us with a cursory glance at God's dealings with his people of old, and at the defence and protection which they experienced while trusting in him. From these premises, the author infers our duty to confide in God under every trouble, from a conviction that he will either avert, remove, or enable us to bear the evil. It is a plain, rational, common-sense discourse.

20. *A Good Refuge in Bad Times,* (Book Society, London,) like the preceding article, directs the reader to put his trust in God. The advantages resulting from this reposing confidence, in seasons of distress, is illustrated by several affecting incidents. The author's reasonings are well supported by scripture, and by the warmth of exhortation.

21. *The Time of Trouble, a Sermon, preached before the House of Commons, A.D. 1655, by the Rev. Edward Reynolds, D.D.,* (Tract Society, London,) would not have been now reprinted if it had not imbodied some superior excellences. These may be found in the fervour of its piety, the cogency of its reasoning, and the vigour of its language.

26. *Portraits of the Royal Family, by J. P. Hemms,* (Harding, London,) exhibit another series of elegant penmanship, by Mr. Hemms, whose former efforts of genius, and command of hand, we have more than once had occasion to notice. These superb sheets contain portraits of all the male branches of the royal family. Of their fidelity in likeness, we can only judge by comparing them with other portraits of the same illustrious individuals, and so far, in most of them, we can trace a strong resemblance. It is, however, by the beauty of the penmanship that the reader's attention will be chiefly attracted, and this, in all its bold and almost invisible strokes, as well as in the varied forms of the letters, is of the most superlative character. Hemms may rival Hemms, but with this exception, these specimens may be pronounced inimitable.

27. *Sermons on the Death of the late Rev. Robert Hall, by J. P. Mursell,* (Hamilton,) *Joseph Hughes, A. M.* (Holdsworth,) *J. E. Giles,* (Bagster,) *Bosworth,* (Westley,) *Thomas Swan,* (Hamilton, London,) all evince how highly the late Mr. Hall was esteemed, and how sincerely his death is deplored. Into the comparative merits of these five discourses we have no intention to institute an inquiry. In each we could easily find some distinguishing excellence, but their authors are not rivals: and we are fully persuaded that they have not written to court the paltry hectic of applause. The occasion was great and solemn, and this solemnity each author has endeavoured to infuse into his discourse, and to impress on the minds of his hearers. Of death, in connexion with its concomitants and effects, they have taken distinct but appropriate views, and adverted to the subject of their discourses in the varied peculiarities of his superior talents, and the amiable features of his christian character. In each sermon, the pious reader will find much to gratify his inquiries, and to stimulate a desire that he may die the death of the righteous, and that his last end be like that of Robert Hall.

28. *Third Quarterly Report of the Protestant Colonization Society of Ireland,* (Courtney, London,) has a noble object in view, which is expressed in the title-page. It aims at the welfare of the Irish, and, if liberally supported, there can be no doubt that it will be productive of much good to the Irish peasantry.

REMARKS ON THE CHARACTER OF KLOPSTOCK.

A PRINCIPAL ingredient in the cup of earthly bliss, arises from the union of two hearts, so constituted by nature and refined by education, as to impart pleasure, and communicate delight to each other, in the retired privacy of the domestic circle. It is this which cheers the otherwise tedious and disconsolate hours of affliction and distress; that alleviates the pressure of misfortune; that tends to dissipate the cares and anxieties of life; and in some measure to brighten the dark and repulsive prospect which surrounds the precincts of the grave.

But it is only in some few instances, that we see the comparatively uninterrupted happiness in the wedded life practically exemplified. The main hinderances which make such frequent discord in the married state, and conjugal harmony so seldom realized, is, because there is too much needless jealousy, and a studied attempt to thwart the

wishes, and bias the opinions, of each other; petty faults are often magnified into enormous crimes; peace becomes expatriated from under their roof; misery, with hatred, succeeds; and alienation of affection follows in its train. But how pleasing is the contrast, when we have an opportunity presented to us, of observing such interesting objects as those who have elicited these few remarks; their extreme paucity invests them with attractions of no common kind in our eyes; they appear like some verdant spot, enamelled with flowers of every hue, amid universal sterility, where the grizly genius of desolation asserts his power.

Of all the characteristic sketches of domestic harmony, affection, and fidelity, that I ever perused, there is none which surpasses that which subsisted between Klopstock, the great German author, and his consort, the lovely Meta. It is one of the most singularly beautiful and graceful pictures of perfect cordiality, joined with the most unfeigned love, innocence, and purity, that can possibly be detached from the chequered scenes of human life, to be held up to rivet the attention, and fix the imitation of man, so as to copy its beauties, to aim at its excellences, and to impress its lineaments in permanent colours on the memory; while under this terrene economy,—while "subject to all the frailties that flesh is heir to." Their minds appear to have been blended in the most sympathetic union, and their tempers to have amalgamated in such a manner that there existed but little alloy. Hence, the low and vulgar cavils, which common and baser minds frequently engage in with such eager ferocity, were entirely excluded; discord never uttered its dolorous sounds within their habitation, and jealousy never entered on their peaceful retreat.

They possessed a certain affinity of mind, and congeniality of taste, for studious habits and mental pursuits, which made the literary labours in which he engaged much more pleasant and delightful, when he knew she felt an equal and corresponding interest in the theme which engrossed his attention, and occupied his thoughts. For the task of criticism, in pointing out inaccuracies and suggesting emendations, she was well qualified; and in this respect her assistance was invaluable, from the delicacy of her taste, the solidity of her judgment, her varied and extensive learning, and the critical acumen which she generally displayed. It is generally agreed, that by sympathy and participation with an object we love, venerate, and esteem, we give to the thoughts a more exalted tone, and an unusual fecundity to the buds of genius and the flowers of imagination; and when engaged in any arduous task, that requires an uncommon exertion of the faculties, perhaps, from this source is derived some of the most blissful emotions allotted to man while on earth.

Intellectual endowments in women, are always destined to fascinate and command respect with men of intelligence and sense, far more than what mere exterior beauty can produce; because the former is fitted to survive in undecaying loveliness, when the latter has become tarnished and faded in the lapse of years. But, from what we can gather from his poems written upon this excellent and gifted woman, and from the concurrence of other sources of information, nature had bestowed on her considerable personal charms, added to extreme delicacy, sensibility, and tenderness, which her published letters fully indicate. With such a companion and helpmate, it was next to impossible, but that an individual so situated must have been peculiarly blessed, and ardently attached to her whom he espoused.

Thus, these two amiable and affectionate beings sojourned on earth together, in the bonds of mutual love and reciprocal regard, delighting, animating, and cheering each other in their progress through this unquiet world. The wife of this great and good man died some years previous to himself; but, by his own express desire, he was interred in the same grave along with her whom he loved; so that it might very appropriately be said, "in death they were not divided." Their attachment, though separated for a time by the wide and cheerless Jordan of death, (the grave being not the final termination of their happiness, but the medium by which they attained to the ultimate completion of their felicity,) was still inseparable and indissoluble, in that sense of the word to which the apostle applies it, when he says, "though absent in body, yet present in spirit." Absorbed in the pleasing anticipation that she was completely happy, and that her pure spirit hovered near him, tended materially to diminish the intensity of his grief, and to console him for the deprivation he had sustained.

At last, in a good old age, he died the death of the righteous, "with an hope full of immortality," and his remains were attended to the grave by the highest official characters in the wealthy and populous city of Hamburgh, including civil, military, and clerical, with a dense mass of spectators seldom congregated; the whole evincing the unequivocal respect which they paid to exalted talents, and the profound veneration which, as a good man and a Christian, his

character demanded. Without doubt, these two lovely specimens of our race, are now in the regions of eternal blessedness, associated with those high and holy spirits, who have exchanged the sorrows of mortality for the joys of immortality, partaking with them of those unsatiating pleasures, that inexpressible bliss, and those interminable delights, which are reserved for them who *here* have been "followers of them who, through faith and patience, shall *there* inherit the promises." But, blessed be God, we have his unfailing assurance, that these seeds of divine origin, that are now laid in the earth, shall shortly germinate and fructify, together with other celestial plants, in order to be placed in the paradise of God; or, in his own beautiful and expressive language on the resurrection of the body, "seed sown by God, to ripen for the harvest."

In the Christian life, they were eminently holy; distinguished servants of the Most High, uniformly displaying the unswerving constancy of the disciple, with the unshrinking fortitude of the martyr. Religion was what most conspicuously predominated in their conversation, and which visibly beautified and adorned their characters. It was this which added dignity to their deportment, and which now throws a kind of splendid halo around the most trivial circumstances connected with the remembrance of these two esteemed and virtuous persons. The bright array of the Christian virtues shone pre-eminent in them, so as to present one concentrated focus,—strong, influential, and powerful,—which warmed cheered, and edified, those who came within the reach of their influence. These sacred irradiations of mind did not occupy an insulated position, so as to make the one appear rather redundant, and the other somewhat defective and misplaced, but so magnified as to be consistent, and so displayed as to exhibit an exquisite pattern "of the beauty of holiness." They were, to borrow an image from the vast and sublime scenery of the heavens, like the stars which we sometimes behold in the firmament, partially obscured by an intervening cloud, while others are still apparent and visible; but even while we stand gazing on the stupendous glories of this enchanting scene, suddenly the clouds disperse,—the intercepting medium vanishes,—and instantly we discern the whole of those innumerable orbs bright and twinkling, each dispensing its light according to its bulk and distance.

Klopstock was a man of distinguished abilities, as a scholar, a philosopher, and a poet. His imagination was peculiarly vivid, brilliant, and susceptible. The work on which his fame as a writer principally depends, is the "Messiah;" and this will remain a lasting and imperishable monument, to all generations, of his sincere piety and elevated genius. It possesses considerable originality of design; the outline is grand, bold, and majestic. Elegance shines, and intellect beams, in almost every page of that great composition. In many parts it contains some of the most glowing delineations, of the life and sufferings, the death and resurrection, of our Saviour, such, perhaps, as were never equalled in any other book extant. The incidents are so well chosen, there is such a depth of pathos, such bursts of eloquence, and variety of imagery, that it irresistibly rivets the attention of the reader, while it captivates, edifies, and instructs the heart. THOMAS ROYCE.

Leicester, April 9th, 1831.

GLEANINGS.

Patent for Making Bricks.—A patent has lately been taken out by Mr. S. R. Bakewell, of No. 9, Whiskin-street, Northampton-square, London, for an apparatus and appurtenances for making brick earth; 2, for a press for the consolidation of bricks; and 3, for a spring brick-mould. Of these inventions, the committee of the "National Repository," Charing-cross, speak in very high terms, as promising great practical utility.

Temperance Society.—The London Temperance Society intend to hold their first public meeting in Exeter Hall, about the middle of June.—The committee will take an early opportunity of advertising the precise day.

Sunday School Jubilee.—September 14th, 1831, being the anniversary of the birth day of Robert Raikes, Esq. the founder of Sunday schools, it is intended that his memory shall be honoured with a jubilee by all the children belonging to the Sunday-school Union. Particulars will be made known in time.

Polar Bears.—In 1788, Captain Cook, of the Archangel, when near the coast of Spitsbergen, found himself suddenly between the paws of a bear. He instantly called upon the surgeon who accompanied him to fire; which the latter did with such admirable promptitude and precision, that he shot the beast through the head, and delivered the Captain. Mr. Hawkins, of the Everthorpe, in July, 1616, having pursued and twice struck a large bear, had raised his lance for a third blow, when the animal sprang forward, seized him by the thigh, and threw him over his head into the water. Fortunately it used this advantage only to effect its own escape. Captain Scoresby mentions a boat's crew which attacked a bear in the Spitsbergen Sea; but the animal having succeeded in climbing the sides of the boat, all the sailors threw themselves for safety into the water, where they hung by the gunwale. The victor entered triumphantly, and took possession of the barge, where it sat quietly till it was shot by another party. The same writer mentions the ingenious contrivance of a sailor, who, being pursued by one of those creatures, threw down successively his hat, jacket, handkerchief, and every other article in his possession, when the brute pausing at each, gave the sailor always a certain advantage, and enabled him finally to regain the vessel.—*Edinburgh Cabinet Library; Polar Sea and Regions.*

Dram-drinking.—At a late meeting in Manchester the practice of dram drinking was reprobated in very forcible terms, and, among other proofs of its bad consequences, it was stated that, according to authentic records, about twenty deaths were caused by it annually in that town alone. Two dram shops in Manchester, it was mentioned, sold £120 worth of ardent spirits in one day; another took on an average £150 per day; and at another, in one day in June last, customers had entered at the rate of 500 per hour, of which number sixth-tenths were men, three-tenths respectable looking females, and one-tenth girls!

National Tastes respecting Animal Food.—Every thing that moves in earth, air, or sea, is devoured by man. In some valleys of the Alps, the rearing of snails is carried on as a trade, and in the month of September they are sent down the Danube to Vienna and Hungary, where they are sold as an article of luxurious food. In South America, nothing in the shape of life comes wrong to them: they eat serpents, lizards, and ounces; and Humboldt has seen children drag enormous centipides out of their holes, and cranch them up. At Emeraldi, their delicate morceau is a roasted monkey. Puppies, on the Missouri and Mississippi, are choice food. Horse-flesh, in Arabia; elephants' flesh, in India; camels' flesh, in Egypt. The Parishs of Hindoostan contend for putrid carrion with dogs, vultures, and kites. The Chinese devour cats, dogs, rats, and serpents; bears' paws, birds' nests, and sea-shy, are dainty bits. The inhabitants of Cochin China prefer rotten eggs to fresh. The Tonquinese, and inhabitants of Madagascar, prefer locusts to the finest fish. In Australia, a good fat gull would be preferred to every thing else; and in the West Indies, a large caterpillar found on the palm is esteemed a luxury; while the edible nests of the Java swallow are so rich a dainty, that the ingredients of the dish will cost £15. The quantity of frogs seen in the markets of the Continent is immense. At Terracina, the host asks his guest whether he prefers the eel of the hedge or that of the river. The astronomer De la Lande was remarkably fond of spiders. Great Britain even transcends her continental neighbours. The "braxy" of Scotland is putrid mutton, the sheep having died of the rot; game or venison is seldom relished till it is "high," or, in honest language, till it is a mass of putrefaction, disengaging in abundance one of the most septic poisons the chemist knows of; in numerous cases it is a mass of life and motion, the offspring of putridity. Pigs are still whipped to death; lobsters are boiled alive; cod are crimped; eels are skinned, writhing in agony; hares are hunted to death, and *white* veal is the greatest luxury.—*Voice of Humanity.*

Funds from which St. Paul's was built.—It was resolved, that a tax should be imposed upon all coal coming into the port of London, the produce to be applied to the raising of the new structure. The wits of the time said, that as coal-smoke had formerly corroded the walls, and coal-fire had lately destroyed them, it was no more than just that coals should restore them again—while some of the citizens, who had not the sense to be satisfied with the logic of an epigram, murmured not a little—and the remnant of Independents, like the troopers of Wallenstein, thought it hard to have "Churches to guard, which they longed to burn."—*Family Library, XIX. Lives of Architects.*

The Wonders of Physics.—What more assertion will make any man believe that in one second of time, in one beat of the pendulum of a clock, a ray of light travels over 192,000 miles, and would therefore perform the tour of the world in about the same time that it requires to wink with our eye-lids, and in much less than a swift runner occupies in taking a single stride?—What mortal can be made to believe, without demonstration, that the sun is almost a million times larger than the earth? and that, although so remote from us, that a cannon ball, shot directly towards it, and maintaining its full speed, would be twenty years in reaching it: it yet affects the earth by its attraction in an appreciable instant of time?—Who would not ask for demonstration, when told that a gnat's wing, in its ordinary flight, beats many hundred times in a second? or that there exist animated and regularly organized beings, many thousands of whose bodies laid close together would not extend an inch? But what are these to the astonishing truths which modern optical inquiries have disclosed, which teach us, that every point of a medium through which a ray of light passes is affected with a succession of periodical movements, regularly recurring at equal intervals, no less than 500 millions of millions of times in a single second! that it is by such movements, communicated to the nerves of our eyes, that we see—nay, more, that it is the difference in the frequency of their recurrence which affects us with the sense of the diversity of colour; that, for instance, in acquiring the sensation of redness, our eyes are affected 482 millions of millions of times; of yellowness, 542 millions of millions of times; and of violet, 707 millions of millions of times, per second? Do not such things sound more like the ravings of madmen, than the sober conclusions of people in their waking senses? They are, nevertheless, conclusions to which any one may most certainly arrive, who will only be at the trouble of examining the chain of reasoning by which they have been obtained.—*Discourse on Natural Philosophy, by Mr. Herschell.*

Temperance Societies.—The total number of Temperance Societies in Scotland, amounts to about 130, containing 25,000 members.

Slave Trade.—From the statements of the Captain of the Primrose, lately arrived from the southern coast of Africa, it would appear that the slave trade there is nearly extinct. The King of Loango lately brought down sixty slaves to the shore, without being able to find a purchaser; they were immediately slaughtered by the royal command, his Majesty not having provisions to spare for their keep. The people of Loango are described as the most civilized on the coast; they spoke broken English. We have known some people speak whole English, who had but small claims to civilization. The Primrose, on the 7th September, captured the largest slaver hitherto employed in that traffic, the Velos Passagero, with 555 slaves on board. The slaver did not strike to the Primrose until after a smart action, in which the Spaniards lost 49 men killed and drowned, and 20 wounded; the Primrose had 3 men killed, and 12 wounded. The mate of the Velos, and twenty-one of the men, have been brought home, to be tried for piracy.

The Wonders of Nature.—For want of one more appropriate, we give this name to the bones that have lately been dug up at Big Bone Lick, Boone County, Kentucky. We have seen two skeletons of the mammoth, the skeleton of the whale, and the elephant, besides numerous living whales and a number of living elephants, but the sight of neither of them created any of those sensations of the mind which we felt at beholding these wonderful productions of nature. To reflect for a moment upon the appearance of a living animal, which, from the skeleton, is proved to have been at least sixty feet in length, upwards of twenty-two in height, and twelve across the hips; the upper bone of whose head weighs six hundred, and grinders eleven pounds each, and this, after having undergone the decay of many centuries, must fill the mind with astonishment and reverence for that Being who said, "Let there be light, and there was light." This animal as much surpassed the mammoth in size as the elephant does the ox, and was of the carnivorous species. With the bones of this nondescript were found the bones of several other animals, some of which were of the herbaceous species, as is proved by their teeth, of which there are a number; and to add to the singularity of the discovery of these bones, amongst them are two of the foot of the horse, which those skilled in comparative anatomy pronounce a third larger than those of the present race of horses. The peculiarity of this circumstance consists in the fact, that horses were not known on this continent at the time of its discovery by Columbus, nor was there any tradition among the Indians of such an animal having existed. We shall conclude our remarks upon the subject by stating, the bones were found imbedded in black mud, upwards of twenty feet below the surface. The first eighteen inches is alluvial, then yellow clay to the depth of twelve or fifteen feet, and then the black mud, in which the bones were contained. Among the bones in the possession of the proprietor, are the head and tusks of the nondescript, the latter measuring twelve feet in length. It being impossible to erect the entire skeleton without a building for the purpose, he intends taking them to New York, and from thence to Europe.—*American paper.*

Law of Divorce in China.—In the Chinese laws, one of the grounds on which a husband may divorce his wife is, *being given too much to talking.*

History of a Royal Diamond.—There is at present a diamond in the crown of England, the history of which is extraordinary. It was worn by Charles the Bold, the last Duke of Burgundy, at the battle of Nancy, 1477, in which he was slain. The diamond became the prize of a Swiss soldier, who sold it to a French gentleman named Lancy. It continued in the family of this gentleman nearly a century, till Henry III. of France, having lost his throne, prevailed upon its possessor to pawn the diamond to the Swiss government, as a security for the payment of troops to assist him to regain it. For this purpose the diamond was despatched by a confidential messenger, who never arrived at his destination, and was not even heard of for a considerable time. At length it was ascertained that he had been murdered by robbers, and buried in a forest. The body was diligently sought for, and found; and the diamond was found in the stomach, the trusty messenger having evidently swallowed it, to prevent its falling into the hands of the robbers.

Queen Elizabeth's Navy.—The English navy, in the time of Queen Elizabeth, consisted of two ships of 1000 tons, each having 340 mariners, 40 gunners, and 120 soldiers; three of 900 tons, each having 268 mariners, 32 gunners, and 100 soldiers; three of 800 tons, with the same number of men; two of 700 tons, with 350 men each; four of 600 tons, with 300 men each; four of 500 tons, having 88 mariners, 12 gunners, and 30 soldiers; two of 400 tons, and ten of 250 tons, having each 70 mariners, 10 gunners, and 20 soldiers; and nine smaller vessels. The number in all was 39.

The Cow-tree.—It was stated a short while ago, in the papers, that a person had arrived from Columbia, bringing with him some specimens of this curious tree. We now find, by an American paper, that a bottle of the juice, and a piece of the bark, have been received at the Harvard University, from Mr. Litchfield, the American consul at Puerto Cabello. This milk was taken from a tree about seven feet in circumference, and one hundred and forty feet in height. It is white, and bears a close resemblance to cow's milk, or rather cream. By exposure to the air, it becomes brown, and, by drying, it is changed into wax, which burns with a pure and strong light. The odour and taste of the milk are like those of our sour cream. Humboldt and other travellers have described the cow-tree; the milk flows from incisions made in the trunk. The natives and negroes go to the trees in the morning, and fill vessels; some drink the milk under the tree, and others carry it to their children. The trees near the road, are full of incisions made by travellers, who appease their hunger and thirst with the milk.

Intelligence of Captain Ross.—We copy the following paragraph from *Jameson's Edinburgh New Philosophical Journal:* "Two accounts of the progress of Captain Ross's exploratory voyage have reached us. We give them as communicated to us. According to one account, Captain Ross was met with in Baffin's Bay, in August, 1829, where, having suffered damage during hard weather, he fortunately was enabled, from the wreck of a Greenland ship, to refit. He afterwards steered northward, and has not since been heard of. The other account represents our adventurous commander and his brave crew as having been forced back to Lively Bay, in Baffin's Bay, where they spent last winter."

Unicorns.—An Italian gentleman, named Barthema, said to be entitled to implicit credit, who has just returned from Africa, states, that he saw two unicorns at Mecca, which had been sent as a present from the King of Ethiopia to the Sultan.—*Hobart's Town Courier.*

The Revenue.—The rapid increase of taxation within our own times, compared with former periods of English history, is very remarkable, and well deserves serious consideration. The following data will be useful:—

Amount of the Net Produce of the Public Revenue at the Accession of successive Sovereigns.

On the accession of James I.	1603	£600,000
Charles I.	1625	695,819
The Commonwealth	1641	1,517,247
Charles II.	1660	1,800,000
James II.	1685	2,000,000
William and Mary	1688	2,001,855
Anne	1701	3,895,205
George I.	1714	5,691,803
George II.	1727	6,762,643
George III.	1760	8,523,540
George IV.	1820	46,131,634
William IV.	1830	47,109,273

To the above is to be added the expense of collecting, which at present amounts to between £4,000,000 and £5,000,000 annually.

Living in New York.—A correspondent lately gone from England to reside in the above city, informs us that a large turkey may be bought for 3s.; a goose for 1s.; and fowls at 6d. each: wages are very good.

First English Colony in America.—Many years elapsed before the English obtained any settlement in America. The first attempt was made by Sir Humphrey Gilbert, who, in the month of June, 1578, obtained a patent from queen Elisabeth, authorizing him to plant a colony in that country. Gilbert's project failed; but it was afterwards resumed by his half-brother, the celebrated Sir Walter Raleigh, who, in 1584, obtained a patent similar to that which had been granted to Gilbert, and next year planted a colony at the mouth of the Roanoke, naming the country *Virginia*, in honour of his royal mistress. But all these settlers, as well as others who crossed the Atlantic during the next twenty years, either perished by famine and disease, or by the hands of the Indians, or returned to England.—*Dr. Lardner's Cyclopedia.*

Literary Notices.

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